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New or insufficiently known African crane flies (Dipt. Tipulidae)

Charles P. Alexander

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New or insufficiently known African crane flies (Tipulidae: Diptera)

Charles P. Alexander
Emeritus, University of Massachusetts, Department of Entomology, Amherst, Massachusetts

(With 55 figures)

In the present paper I am discussing various undescribed or poorly known species of African crane flies derived from three major sources: — (1) The Parc National Albert, in extreme eastern Democratic Republic of Congo, western Uganda and in Rwanda. (2) The Matengo Highlands in southern Tanzania (Tanganyika), east of Lake Nyasa. (3) Madagascar and South Africa.

Parc National Albert. Extensive series of Tipulidae were sent to me for study by Dr. P. Basilewsky, of the Musée Royal de l'Afrique Central, Tervueren, Belgium, and the late President V. Van Straelen, of the Institut des Parcs Nationaux du Congo Belge. It had been intended to incorporate these materials in a report of the series of papers that concern the fauna of the Parc National Albert but this study has been delayed and it now is proposed to publish the descriptions of certain of the novelties derived from these sources. In 1956 (see bibliography at end of this introductory statement) I published a major account of the Tipulidae of Tropical Africa and in the keys covering various genera a small number of species were included that are treated in the present report. These are considered to have been described at that time but the detailed descriptions, type indications and illustrations have not been published and are given here. Because of the many changes in political names and boundaries in Africa during the past two decades the data on the various specimens often differ from the present usage and for clarity both names are provided under the various descriptions. The types and other materials derived from this source are to be deposited in the Museum of the Belgian Congo, Tervuren.

Matengo Highlands. Materials secured by the late Dr. Hanns Zerny and associates in 1935-1936 to the then German East Africa, preserved in the Naturhistorisches Museum, Vienna.

Madagascar (Malagasy Republic) and *South Africa* (Republic of South Africa). Based primarily on collections made by Dr. Brian Stuckenberg in Madagascar in 1955-1956 and in 1957, and in South Africa in 1958 by Brian and Pamela Stuckenberg. Materials to be preserved in the Natal Museum, Pietermaritzburg.

Selected lists of references

Parc National Albert

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Tipulinae

1. **Nephrotoma dewittei** Alexander

Nephrotoma dewittei Alexander; Ruwenzori Expedition 1934-5, 1, no. 7: 135 (in key); 1956.

Size large (wing of male 13 mm or more); general coloration of thorax and abdomen polished black; head black, vertical tubercle abruptly orange; halteres black; legs black, femoral bases yellow, broadest on posterior pair; wings brownish yellow, stigma darker brown; male hypopygium with posterior border of ninth tergite produced into two large flattened blades, their mesal edges with blackened spicules; each gonapophysis appearing as a long spine, the mesal edge with two shorter points, together with a long narrow basal arm that narrows to an apical point; eighth sternite with caudal border produced into a low setiferous lobe.

M a l e. — Length about 13.5-14 mm.; wing, 13-14 mm. F e m a l e. — Length about 15-17 mm.; wing, 14-17 mm. Frontal prolongation of head and the palpi black; nasus elongate. Antennae of unique type male broken, scape dark brown, pedicel slightly paler; in female, flagellum uniformly black, segments feebly enlarged at bases, shorter than their verticils. Head black with the exception of the orange vertical tubercle, the latter oval in outline, relatively tumid, gently emarginate medially in male, entire in female.

Thorax uniformly black, notum highly polished, praescutum, scutum and postnotum glabrous, scutellum with sparse very short setae; dorsopleural region blackened, more opaque than the remainder. Halteres black, central area of stem slightly paler. Legs with coxae black; trochanters black; femora black, bases conspicuously yellowed, narrowest on fore legs, broadest on posterior pair where approximately the proximal two-fifths to one-half is included; tibiae and tarsi black. Wings with a strong brownish yellow tinge, cells *C* and *Sc* more saturated, especially the latter; stigma darker brown, relatively small, oval; veins yellowish brown to light brown, more yellowed in costal field. Stigmal trichia very sparse to virtually lacking; in male with five or six scattered trichia in outer end of cell R_5, these fewer to lacking in female. Venation: Sc_2 ending virtually opposite origin of *Rs;* cell M_1 short-petiolate to narrowly sessile; cell *1st* M_2 widened outwardly; *m-cu* close to origin of vein M_4.

Abdomen polished black, including the male hypopygium and genital shield of female. Ovipositor with valves horn yellow. Male hypopygium (Fig. 2) with the region of the ninth sternite, *s,* conspicuously tumid, the median region deeply incised, with pale membrane. Ninth tergite, *t,* with caudal border produced

into two large flattened blades that are separated by a very narrow V-shaped emargination, edges of the blades with the usual microscopic blackened spicules; on ventral surface on either side of base of blades with a second lobe that is provided with fewer but larger blackened points. Outer dististyle, *d*, long and slender, narrowed to the obtuse tip, the length approximately six or seven times the greatest width; inner style compact, dorsal crest very low, glabrous; beak obtuse, lower beak more slender, heavily blackened; no posterior crest or further armature, the region almost glabrous. Gonapophysis, *g*, distinctive, the main apophysis with proximal half expanded, outer apical angle produced into a slender rod, mesal edge of the expanded part produced into two shorter spinous points; base of apophysis with a long narrow arm extended into an apical point. Aedeagus, *a*, unusually small, narrowed to the obtuse tip, penis filament very long and slender. Eighth sternite, *8s*, with caudal border medially produced into a low lobe that is provided with abundant long coarse black setae.

Habitat: Rwanda and Uganda. Holotype, ♂, Sabinyo Volcano, Parc National Albert, Valley Rwebeya, 3,000 meters, September 22, 1934 (De Witte); No. 637. Allotopotype, ♀. Paratopotypes, 2 ♀♀; paratypes, 1 ♂, 1 ♀, Mount Mgahinga, Kigezi Province, Southwest Uganda, altitude 10,000-11,000 feet, November 1934 (F. W. Edwards); British Museum (Natural History).

The species is named for the collector of the type specimens, Mr. G. F. De Witte. It is most similar to species such as *Nephrotoma albonigra* Alexander and *N. chalybea* Alexander, differing in many details of coloration of the body, legs and wings and particularly in hypopygial structure, especially the ninth tergite and gonapophyses.

2. **Nephrotoma subinanis** Alexander

Nephrotoma subinanis Alexander; Ruwenzori Expedition 1943-35, 1, no. 7: 138 (in key); 1956.

General coloration of mesonotal praescutum yellow, with three polished black stripes that are entirely separate, mediotergite clear light yellow, the posterior third more reddened; head almost uniformly yellow, occipital brand very pale, scarcely differentiated; antennae with scape light yellow, flagellar segments beyond the first black; femora brown, tips narrowly blackened, claws of male simple; abdomen yellow, restrictedly patterned with darker, subterminal segments uniformly blackened, hypopygium yellow; male hypopygium with lobes of tergite truncate, inner dististyle with dorsal crest produced posteriorly into a free lobe; eighth sternite with posterior border divided into two rounded lobes that are provided with abundant long black setae that curve toward the midline.

M a l e. — Length about 12-13 mm.; wing, 13-14 mm.; antenna, about 5 mm. F e m a l e. — Length about 17 mm.; wing 15 mm. Frontal prolongation of head uniformly light yellow, nasus elongate, yellow, tufted with black setae; palpi brown, outer segment paling to yellow. Antennae of male moderately long, approximately one-third the body; scape light yellow, pedicel and first flagellar segment pale brownish yellow, second segment brown with basal enlargement slightly darker, succeeding segments passing into black; flagellar segments moderately incised, much longer than their verticils, basal enlargements small. Head almost uniformly yellow; occipital brand very pale, scarcely differentiated from the ground; orbital areas and a capillary median line slightly more orange; vertical tubercle nearly entire.

Pronotum uniformly light yellow. Mesonotum yellow, the praescutum with three polished black stripes that are entirely separated by interspaces, the paratype with central stripe with a weak reddish median vitta; outer ends of lateral stripes outcurved, polished and slightly paler; median area of scutum yellow, each lobe virtually covered by a polished black area, lateral ends of suture more opaque; scutellum weakly infuscated medially, the remainder obscure yellow; mediotergite clear light yellow, posterior third more reddened. Pleura and pleurotergite light yellow with more reddened areas on ventral anepisternum, ventral sternopleurite and meral region, dorsopleural membrane yellow. Halteres brownish yellow, apex of knob more yellowed. Legs with all coxae and trochanters yellow; femora brown, brightened basally, tips narrowly infuscated, tibiae yellow, tips still more narrowly darkened; tarsi black, claws of male very small, simple, strongly curved. Wings strongly tinged with brownish yellow, cells *C* and *Sc* scarcely different; stigma oval, brown; veins brown, those in costal field more yellowed. Stigmal trichia abundant, those in outer end of cell R_5 sparse. Venation: Anterior cord and the short *Rs* in oblique alignment; cell M_1 narrowly sessile, in allotype very short petiolate.

Abdomen with first tergite darkened basally, sides and broad apex yellow; segment two chiefly yellow with a small brown median area on basal ring and a larger triangle at posterior border, segment three with the latter area still larger; succeeding tergites black, more or less brightened on basal ring, subterminal segments uniformly black; hypopygium yellow; basal sternites yellow, outer ones darker. In female the genital shield and preceding segment yellow. Male hypopygium (Fig. 1) with ninth tergite,

t, transverse, posterior border with two low truncated lobes provided with several blackened spicules, separated by a relatively shallow median notch; ventral surface with other flattened extensions bearing blackened points. Ninth sternite tumid, heavily blackened on either side of midline. Outer dististyle, *d,* long and narrow, length approximately six times the greatest width; inner style extensive, dorsal crest very extensive, produced posteriorly into a free lobe or blade; lower beak heavily blackened; no spine in region of the posterior crest, this being scooplike, with relatively few setae; surface of disk of style with unusually long setae that are directed backward. Gonapophysis, *g,* a pale spatula, apparently without secondary spines or similar modifications as in some related species (this damaged on type slide). Eighth sternite, *8s,* extensive, sheathing, posterior border divided into two rounded lobes provided with abundant long black setae that are incurved toward the midline, median area membranous with numerous shorter setae.

Habitat: Rwanda. Holotype, ♂, Rwindi, Parc National Albert, 1,000 meters, November 20-24, 1934 (De Witte). Allotopotype, ♀. Paratopotype, a broken ♂.

The related species are indicated in the key cited above.

3. **Tipula (Acutipula) ellioti** Alexander

Tipula ellioti Alexander; Canad. Ent., 52: 156-157; 1920.

Type locality; ♂, Salt Lake to Wawamba, Uganda (G. F. Scott Elliot); (British Museum Natural History). Male hypopygium (Figs. 3, 4).

4. **Tipula (Acutipula) gaboonensis** Alexander

Tipula gaboonensis Alexander; Bull. Mus. d"Hist. nat. (Paris), 1920: 403-405; 1920.

Type locality: ♂, Lambaréné, Ogooué Riviere, Gabon (French Congo), 1919 (R. Ellenberger); (Paris Museum). Male hypopygium (Figs. 5-8).

5. **Tipula (Acutipula) kenia** Alexander

Tipula kenia Alexander; Canad. Ent., 52: 157-158; 1920.

Type locality: ♂, Mount Kenia, Kenya (British East Africa), 6,000-7,000 feet, February 3-12, 1911 (S. A. Neave); (British Museum Natural History). Male hypopygium (Fig. 9).

6. **Tipula (Acutipula) meliuscula** Alexander

Tipula meliuscula Alexander; Canad. Ent., 52: 154-155; 1920.

Type locality: ♂, Sierra Leone, November 1904 (Major F. Smith); (British Museum Natural History). Male hypopygium (Fig. 10).

7. **Tipula (Acutipula) milanjensis** Alexander

Tipula milanjensis Alexander; Canad. Ent., 52: 152; 1920.

Type locality: ♂, Mount Mlanje, Nyasaland, December 28, 1912 (S. A. Neave); (British Museum Natural History). Male hypopygium (Figs. 12-14).

8. **Tipula (Acutipula) vanstraeleni** Alexander

Tipula (Acutipula) vanstraeleni Alexander; Bull. de I. F. A. N. (Institut Francais d'Afrique Noire), 20, ser. A, no. 1: 121-123; 1958.

Type locality: ♂, Eala, Democratic Republic of Congo (Belgian Congo), September 1935 (J. Ghesquière); Paris Museum. Venation (Fig. 11); male hypopygium (Fig. 15).

Limoniinae Limoniini

9. **Limonia (Achyrolimonia) persuffusa** Alexander

Limonia (Limonia) persuffusa Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 203 (in key); 1956.

General coloration of thorax dark brown, praescutum and scutal lobes yellow; wings yellow, central region of disk more whitened, a heavy brown pattern including major areas at near one-fourth the length of cell *R*, *Rs*, anterior cord, and outer two-thirds of vein R_3, all markings more or less confluent; cells of outer half of wing with abundant trichia.

Sex? — Wing 9.5 mm. Rostrum and palpi black. Antennae with scape and pedicel black; flagellum broken. Head dorsally brown, more yellowed behind; front whitish pruinose; anterior vertex relatively narrow, less than the diameter of scape beyond base.

Pronotum obscure orange above, dark brown on sides. Mesonotal praescutum with lateral and humeral portions dark brown, remainder of disk with three confluent yellow stripes; lateral parts of scutal lobes yellowed, mesal portions slightly darker, median line slightly pruinose; scutellum brownish yellow; mediotergite obscure yellow, sparsely pruinose, pleurotergite more infuscated. Pleura chiefly dark brown, ventral sternopleurite slightly more yellowed. Halteres broken. Legs with coxae obscure brownish yellow, slightly paler apically; trochanters yellow;

remainder of legs broken excepting the basal section of a fore femur, this yellow. Wings (Fig. 16) with the ground yellow, central region for almost the entire length more whitened, cell *C* weakly infuscated; a heavy brown pattern that includes a broad seam over *Rs,* wider at base, confluent with a still larger area over the anterior cord, extending from costa at free tip of Sc_1 caudad to cell *1st* M_2; a further major darkening over more than the outer two-thirds of vein R_3, confluent with the area at cord; other dark seams in cell *R* at near one-fourth the length, fork of *Sc,* posterior cord, and outer end of cell *1st* M_2; marginal seams on M_{1-2} to *2nd A,* larger and most conspicuous in the medial field, those in Anal field small and inconspicuous; veins in ground areas yellowed, darker in patterned portions. Cells of more than outer half of wing with abundant trichia, including all cells beyond cord, as well as cells R_1, outer end of *R* adjoining *Rs,* and in outer ends of cells *Cu* and *1st A.* Venation: *Sc* long, Sc_1 ending about opposite four-fifths *Rs,* Sc_2 near its tip; *Rs* gently angulated at base; free tip of Sc_2 and R_2 in approximate transverse alignment; cell *1st* M_2 elongate, subequal to or a little longer than distal section of M_{1-2}; *m-cu* about one-fourth to one-fifth its length before fork of *M.*

Abdomen broken.

Habitat: Parc National Albert. Holotype, sex? Gitebe, Volcan Nyamuragira, 2,324 meters, June 14-26, 1935 (De Witte).

The most similar species is *Limonia* (*Achyrolimonia*) *cuthbertsoni* Alexander, of Mozambique, as shown in the original reference (1956).

10. **Limonia (Achyrolimonia) pothos** sp. n.

Belongs to the *trigonia* group, allied to *recedens;* general coloration dark brown, praescutum with three yellowish brown stripes; legs brownish yellow, tarsi paler; wings whitened, with a very heavy brown pattern that includes seven costal areas that are subequal to or more extensive than the interspaces, R_{1-2} elongate; male hypopygium with a single spine on the ventral dististyle, arising from face of style at base of the slender prolongation; terminal lobule of ventromesal lobe of basistyle very stout.

Male. — Length, about 5.5-6.5 mm.; wing, 6-7.6 mm.

Female. — Length, about 6 mm.; wing, 6.8 mm.

Rostrum very small, yellow; palpi similarly reduced, black. Antennae with scape dark brown, pedicel paler brown, first flagellar segment yellow, succeeding ones brown; flagellar segments passing through short-oval to elongate, with long conspicuous verticils. Head dark brown; anterior vertex broad.

Pronotum dark brown, pretergites more whitened. Mesonotal praescutum with ground dark brown, disk with three paler brown or yellowish brown stripes, the lateral pair brighter; scutal lobes ringed with dark brown, their centers extensively pale; posterior sclerites of notum dark brown. Pleura brown, restrictedly patterned with darker brown. Halteres infuscated, base of stem restrictedly pale. Legs with coxae pale brown; trochanters yellow; remainder of legs brownish yellow to very pale brown, tarsi paling to yellow. Wings (Fig. 17) with ground color of anterior half whitened, of posterior half weakly infuscated; a heavy and conspicuous darker brown pattern that includes especially seven costal areas, the first arcular, third at origin of *Rs*, last at end of vein R_3, the areas subequal to or more extensive than the interspaces; further darkenings appear as seams over cord, outer end of cell *1st* M_2, and as relatively large areas at ends of Anal veins; veins brown. Costal fringe of male shorter than in *recedens*. Venation: R_{1-2} longer than in *recedens*, about three-fifths to two-thirds R_{2-3}; *Rs* angulated and in cases spurred at origin; *m-cu* before fork of *M*, the distance variable.

Abdomen, including hypopygium, dark brown, extreme bases of sternites obscure yellow. Male hypopygium (Fig. 22) with the tergite, *t*, transverse, posterior lobes low but conspicuous, with long setae; median area with extensive membrane, presumably representing the proctiger. Basistyle, *b*, with ventromesal lobe large, its terminal lobule large and very stout when compared with *recedens*. Dorsal dististyle, *d*, nearly straight except near apex which is curved into an acute point, outer surface scabrous; ventral style small, its area only slightly greater than the ventromesal lobe of the basistyle, oval, with long setae; rostrum a long slender rod, curved beyond midlength to appear like a boomerang; a single spine arises from the face of style above base of rostrum, including a very long slender basal tubercle and an outer black spine of about one-half the length. Gonapophysis, *g*, with mesal-apical lobe moderately stout, simple, apex directed laterad into an acute spine. Apex of aedeagus an oval-compressed blade, as in the subgenus.

Habitat: Tanzania.

Holotype, ♂, Ugano, Matengo Highlands, 1,500-1,700 meters, February 1-10, 1936 (Zerny). Allotopotype, ♀. Paratopotypes, 2 ♂♂; paratype, 1 ♀, Lupembe Berg, Matengo Highlands, 1,800-2,000 meters, December 11-20, 1935 (Zerny).

The subgenus *Achyrolimonia* Alexander was described in 1965 (in Madagascar report, cited in introduction to this paper) and the rather numerous African species were listed. The present fly is generally similar to *Limonia (Achyrolimonia) recedens* (Alexander), from Cameroun, differing especially in the wing pattern and in the details of the hypopygium, including the basistyle, ventral dististyle and gonapophyses.

11. **Limonia (Afrolimonia) lucrativa** sp. n.

Allied to *subapicalis;* size medium (wing of male about 13 mm.); general coloration of thorax yellow, patterned with brown, including a conspicuous median praescutal stripe; legs beyond trochanters uniformly black; wings yellow, more saturated on anterior border, heavily spotted and dotted with dark brown, Sc_1 ending a short distance before fork of *Rs;* cell *1st* M_2 irregular, *m* about one-half the basal section of M_3; abdomen yellow.

Male. — Length, about 9 mm.; wing, 12.5-13 mm. Female. — Length, about 8-9 mm.; wing, 10-11 mm.

Rostrum and palpi black. Antennae black, in cases flagellar segments brown; basal flagellar segments short-oval, with abrupt apical stems; outer four or five segments long-cylindrical, the more proximal ones shorter than their longest verticils. Head blackish, pruinose; anterior vertex reduced to a narrow elevated strip that is about one-third the diameter of the scape.

Pronotum obscure yellow. Mesonotal praescutum brownish yellow with a conspicuous dark brown median stripe, very narrow in front, widened posteriorly and more or less divided by a capillary pale vitta that is broadest before the suture, lateral praescutal borders indistinctly darkened; scutal lobes dark brown, central part very broadly pale yellow, this continued onto the scutellum, the latter dusky posteriorly; mediotergite brownish black, sparsely pruinose, anterolateral parts paler. Pleura and pleurotergite obscure yellow, in cases with a more or less distinct narrow darker brown longitudinal stripe, beginning on cervical region immediately above the fore coxae, most distinct on ventral anepisternum, ventral pleurotergite restrictedly darkened; in some specimens, including the allotype, the dark pleural stripe is lacking or virtually so. Halteres yellow, base of knob more darkened. Legs with coxae and trochanters yellow, fore coxae weakly infuscated, remainder of legs black; claws long, each with several denticles, outermost largest. Wings with the ground pale yellow, more saturated in the prearcular, costal and stigmal regions; a conspicuous dark brown spotted and dotted pattern, with major areas in bases of cells *R* and *M,* origin of *Rs* and the stigma, the last restricted to seams along the veins; narrow

but conspicuous borders along cord and outer end of cell *1st* M_2; scattered brown dots in virtually all cells, some becoming more or less confluent to form larger areas, especially as marginal marks in the cubital and anal cells; veins yellow, dark brown in the patterned fields. Venation: Sc_1 ending a short distance before fork of *Rs*, Sc_2 some distance from its tip, Sc_1 being about equal to basal section of R_{4-5}; free tip of Sc_2 and R_2 subequal and in transverse alignment; cell *1st* M_2 elongate, *m* about one-half the basal section of M_3, the cell subequal in length to distal section of vein M_{1-2}; *m-cu* longer than distal section of Cu_1, close to the fork of *M;* vein *2nd A* sinuous, the cell relatively narrow.

Abdomen yellow, in cases more obscure, posterior borders of tergites narrowly more darkened; hypopygium yellow. Male hypopygium as in the subgenus; tergite with posterior border convexly rounded. Ventral dististyle with an elongate accessory fleshy lobe in the notch of the base of the rostral prolongation, its tip with several long setae; rostral spines two, long and straight, from a small common tubercle at base of prolongation.

Habitat: Democratic Republic of Congo.

Holotype, ♂, Eala, November 1936 (J. Ghesquière); No. 3186. Allotopotype, ♀. Paratopotypes, 1 ♂, 1 ♀.

The subgenus *Afrolimonia* Alexander was defined in 1965 (In Madagascar paper cited in the introduction) where the numerous African species were listed. The present fly is closest to species such as *Limonia (Afrolimonia) ditior* Alexander and *L. (A.) rhanteria* (Alexander), differing evidently in the uniformly blackened legs. As indicated in the paper cited the subgenus includes some very large species with others of medium to small size and with the wings ranging from heavily patterned to quite unmarked, and with the various species showing a great variety of patterns of the legs.

12. **Limonia (Atypophthalmus) patrita** sp. n.

Size small (wing of male less than 4.5 mm.); general coloration of thorax obscure yellow, pleura with a dorsal brown longitudinal stripe; halteres unusually long; legs obscure yellow, claws apparently untoothed; wings pale brown, stigma slightly darker, short-oval, Sc_1 ending about opposite one-third *Rs*, cell *1st* M_2 large, subequal in length to vein M_{1-2} beyond it; male hypopygium with ventromesal lobe of basistyle large, apex pointed, at base with a smaller accessory lobule; a single complex dististyle, rostral prolongation a strongly curved sclerotized hook, with two elongate spinoid setae before apex, other lobes and spines on face of style at base of prolongation.

Male. — Length, about 4 mm.; wing, 4.3 mm. Head lacking in unique type. Pronotum brown. Mesonotum chiefly shiny obscure yellow, vaguely patterned with darker, including the praescutal borders. Pleura similarly pale with a medium brown dorsal longitudinal stripe extending from cervical region to base of abdomen. Halteres unusually long, stem pale brown, base brighter, knob infuscated. Legs with coxae and trochanters yellow; remainder of legs obscure yellow, including tarsi; claws apparently untoothed. Wings (Fig. 18) with a pale brown tinge, the short-oval stigma slightly darker; veins pale brown. Venation: *Sc* moderately long, Sc_1 ending about opposite one-third *Rs*, Sc_2 near its tip; *Rs* elongate, about one-third longer than R_{2-3}; free tip of Sc_2 and R_2 pale, in approximate transverse alignment; cell *1st* M_2 large, rectangular, subequal in length to vein M_{1-2} beyond it; *m-cu* close to fork of *M;* Anal veins convergent basally.

Abdomen including hypopygium dark brown, the incisures somewhat paler. Male hypopygium (Fig. 23) with tergite, *t,* not clearly discernible in the unique type, transverse, posterior border apparently gently convex, not emarginate. Basistyle, *b,* with ventromesal lobe elongate, narrowed gradually to the nearly pointed apex, with long coarse setae, those at tip much smaller, terminating in hairlike points, at base of major lobe with a smaller lobule. A single complex dististyle, *d,* with the main body long-oval, dark in color; rostral prolongation a large strongly curved sclerotized hook, narrowed gradually into a slender apical spine, before apex with two large powerful setae or setoid spines that presumably represent the usual rostral spines; at base of rostrum with an erect spinous point; further outgrowths at base of rostrum including a broadly flattened lobe that bears eight or nine long strong setae and with a low dusky lobe at nearly the same position. Gonapophysis, *g,* with mesal-apical lobe unusually strong, the blackened tip bent strongly laterad. Aedeagus narrowed before the very weakly bilobed apex.

Habitat: Democratic Republic of Congo.

Holotype, ♂, Eala, May 21, 1935 (J. Ghesquière).

Atypophthalmus Brunetti was proposed in 1911 as a genus but presently is maintained as a subgenus of *Limonia* Meigen. A discussion of the group, with a listing of the numerous African species presently known, has been provided by the writer (In Madagascar paper, 1965, provided in the introduction to the present report). The fly is well distinguished by the hypopygial structure, the most similar species apparently being *Limonia (Atypophthalmus) fuscopleura* (Alexander).

13. **Limonia (Atypophthalmus) polypogon** sp. n.

General coloration of thorax reddish brown, praescutum with a broad central darker stripe; antennae of male relatively long; wings weakly tinged with brown, stigma slightly darker; male hypopygium unusually complex, tergite large, mesal face of basistyle produced into two lobes, phallosome large, the aedeagus broad.

Male. — Length, about 6-6.5 mm.; wing, 6.5-7 mm.; antenna, about 1.8-2 mm. Rostrum and palpi dark brown. Antennae of male long, if bent backward extending to base of halter or shortly beyond; flagellar segments cylindrical, abruptly constricted to form short glabrous necks, with sparse short verticils and a dense white pubescence. Front and vertex immediately behind the antennal bases silvery, anterior vertex very narrow, less than the diameter of a single row of ommatidia; head behind gray, center of posterior vertex extensively darkened.

Pronotum small, brown. Mesonotum reddish brown, the praescutum with a broad central darker stripe, scutal lobes darkened. Pleura brownish yellow, clearer yellow beneath. Halteres infuscated, base of stem yellowed. Legs with coxae and trochanters yellow, remainder of legs medium brown; claws of male with a slender appressed spine at near midlength and a second more divergent one near base. Wings (Fig. 19) weakly tinged with brown, stigma small, oval, slightly darker brown; veins brown, with conspicuous trichia. Venation: *Sc* long, Sc_1 ending a short distance before fork of *Rs*, Sc_2 near its tip; free tip of Sc_2 before level of R_2; cell *1st* M_2 relatively small, much shorter than vein M_4; *m-cu* at or shortly beyond fork of *M*.

Abdomen dark brown, basal sternites more yellowed; hypopygium with dististyles slightly paler. Male hypopygium (Fig. 24) with tergite, *t*, very large, only slightly longer than broad, posterior border strongly rounded, cephalic margin less so, both margins heavily thickened and darkened, setae moderately numerous, restricted to posterior third of plate, lateral angles produced. Basistyle, *b*, with two lobes on mesal face, basal one elongate, produced cephalad as a long darkened appendage, the inner margin with microscopic tubercles, caudal end with a group of long yellow setae; second lobe smaller, slender, more distal in position, apex with about four very large setae. Dististyle, *d*, two-branched, including a long curved outer arm, its tip microscopically bidentate, and a very small cylindrical lobe with several setae, the longest approximately one-half the lobe itself. Phallosome, *p*, very large and complex; gonapophyses lying laterally, each

narrowed into a terminal spine; what appears to represent a modification of the proctiger lies just mesad of the apophysis and may actually be a part of this, appearing as a large lobe, the outer face near apex with a dense brush of very long wavy setae, the inner lobule with corresponding much shorter bristles; aedeagus very large, broad, apex emarginate to form two conspicuous lobes.

Habitat: Tanzania.

Holotype, ♂, Lupembe Berg, Matengo Highlands, 1,800-2,000 meters, January 17-20, 1936 (Zerny). Paratopotypes, 2 ♂♂.

A recent discussion of the African species of *Atypophthalmus* was given under the preceding description and may be consulted. The present fly differs from all known regional species in the structure of the hypopygium.

14. **Limonia (Tricholimonia) zernyana** Alexander

Limonia zernyana Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 205 (in key); 1956.

Allied to *edwardsi;* head above silvery gray, posterior vertex with a velvety black line on either side; mesonotal praescutum yellow with a broad black central stripe, constricted in front, lateral margins broadly pale; scutellum silvery white, posterior margin broadly black; pleura yellow with a narrow transverse black stripe on cephalic edge of mesopleura, not involving the sternopleurite; legs black, bases of fore femora yellow; wings yellow on about the basal half, cells beyond the cord darker, especially the broad margin; stigma and seams at cord and outer end of cell *1st* M_2 darker brown, stigma with abundant trichia; abdomen with basal four segments orange (remainder broken in available material).

Wing about 16 mm. Rostrum and palpi black. Antennae with scape and pedicel black; flagellum broken. Head silvery gray on front, this continued caudad to the occiput, becoming more narrowed behind, on posterior vertex bordered on either side by a broad velvety black stripe; anterior vertex narrowed behind, at narrowest point only a little wider than the diameter of the scape; genae gray pruinose.

Pronotum blackened medially, sides broadly yellow. Mesonotal praescutum yellow with a broad black central stripe, in front constricted by the ground color reducing the dark color to a narrow line; lateral stripes deep orange anteriorly, posterior half more blackened; scutum pale medially, lobes black on anterior half, the sides more narrowly blackened, enclosing a large yellow area on posterior half of each lobe, central area and base of scutellum silvery white, posterior margin of the latter broadly black; postnotum light yellow pollinose on anterior half, more reddened behind. Pleura yellow, with a narrow transverse line of black on cephalic edge of mesopleura, not including the sterno-

pleurite. Halteres destroyed in type. Legs with all coxae and trochanters yellow; fore femora black, with about the basal fourth yellow; middle and hind femora and remainder of all legs black. Wings yellow on about the basal half, including the more saturated prearcular and costal fields; cells beyond cord more brownish yellow; a darker brown pattern includes the stigma and broad seams at origin of *Rs*, cord, outer end of cell *1st* M_2 and in outer ends of radial and medial fields, cells *Cu*, *1st A* and *2nd A;* veins yellow in the ground areas, infuscated in the patterned fields. Stigma large, oval, with very numerous trichia. Venation: *Sc* relatively long, Sc_1 ending shortly beyond fork of *Rs*, Sc_2 near its tip; *Rs* relatively short, about as long as cell *1st* M_2, the latter subequal in length to the distal section of vein M_{1-2}; free tip of Sc_2 short, almost in transverse alignment with R_2; outer third of radial branches strongly decurved; *m-cu* close to fork of *M*.

Abdomen badly damaged by insect pests, only the proximal four segments remaining, these intensely orange.

Habitat: Tanzania.

Holotype, Sex?, Ugano, Matengo Highlands, WSW of Songea, 1,500-1,700 meters, December 1-10, 1935 (Zerny).

I dedicated this attractive fly to Dr. Hanns Zerny, distinguished entomologist and collector in many parts of the world. The most similar of the presently known members of the subgenus is *Limonia (Tricholimonia) edwardsi* (Alexander) which differs conspicuously in the coloration of the body and wings. The species in the subgenus *Tricholimonia* Alexander have been listed in the Madagascar paper by the writer, 1965, cited under the foregoing species.

15. **Limonia harmonia** Alexander

Limonia harmonia Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 203 (in key); 1956.

General coloration of head and thorax yellow; basal flagellar segments bicolored, brownish black, bases white; legs brown, outer fifth of tibiae and the tarsi snowy-white; wings relatively long and narrow, deep fulvous, without distinct pattern, Sc_1 ending about opposite two-thirds *Rs*, Sc_2 close to its tip, *m-cu* a short distance beyond fork of *M;* abdomen brownish yellow, ovipositor with cerci very small and slender, strongly upcurved.

F e m a l e. — Length, about 5.5 mm.; wing, 8.4 mm. Rostrum brown; palpi brownish black. Antennae with scape and pedicel brownish black; proximal flagellar segments bicolored, basal third to half white, the remainder brownish black, the amount of pale color gradually decreasing on outer segments, on the sixth involving less than the proximal third, outer segments uniformly

brownish black; longest verticils unilaterally distributed, a single one on each segment and fully one-half longer. Front and cephalic part of anterior vertex infuscated, sparsely pruinose, remainder of head yellow; anterior vertex moderately wide, exceeding twice the diameter of the scape.

Thorax chiefly yellow, praescutum and scutum variegated by more reddish areas that are chiefly lateral; scutellum broad, light yellow. Pleura and pleurotergite reddish yellow. Halteres relatively long, stem pale, knob weakly darkened. Legs with coxae and trochanters yellow; femora obscure yellow, outer third more darkened; tibiae brown with about the outer fifth snowy white, tarsi white, the proximal third of basitarsi slightly more infuscated; claws of female small, with a single long and other smaller subbasal spines. Wings (Fig. 20) relatively long and narrow, especially basally; ground color deep fulvous, scarcely patterned, the oval stigma and extreme wing tip slightly darker than the ground; veins pale brown. Venation: Sc_1 ending about opposite two-thirds *Rs*, Sc_2 close to its tip; *Rs* long, angulated at origin; free tip of Sc_2 and R_2 in approximate transverse alignment; veins R_3 and R_{4-5} nearly parallel to one another, deflected outwardly, the latter ending at or just beyond the wing tip; cell *1st* M_2 rectangular, subequal to vein M_3 beyond it; *m-cu* about one-fifth its length beyond fork of *M;* Anal veins near bases convergent.

Abdomen brownish yellow, tergites vaguely patterned with darker. Ovipositor with cerci very small and slender, strongly upcurved to the acute tips; hypovalvae broad-based, ending before apices of cerci.

Habitat: Rwanda. Holotype, ♀, Gitebe, Volcan Nyamuragira, Parc National Albert, 2,324 meters, June 14-26, 1935 (De Witte).

In the absence of the male sex I refrain from attempting to assign this species to a subgenus. Other regional members of the genus having white tarsi include *Limonia bequaerti* Alexander, *L. bethae* Alexander, *L. infausta* Alexander, and *L. metatarsalba* Alexander, the present fly differing from all of these in the coloration of the body, antennae, legs and wings and in the shape of the last which are unusually long and narrow for members of the genus.

16. **Limonia (Dicranomyia) guillarmodana** sp. n.

Allied to *subconfusa;* general coloration of thorax light yellow; rostrum relatively long, light yellow; head brownish yellow, gray pruinose; legs obscure yellow; wings brownish yellow, prearcular and costal fields clearer yellow, stigma scarcely evident, vein *Sc* long; abdominal tergites weakly infuscated, posterior borders narrowly yellowed; rostral spines of male hypopygium pale, long and straight.

Male. — Length, about 4.5-5 mm.; wing, 5.5-6 mm.; antenna, about 1.25-1.3 mm. Female. — Length, about 6.5 mm.; wing, 6.5 mm. Rostrum conspicuous, light yellow, about one-third the remainder of head; palpi pale. Antennae with scape and pedicel yellow, flagellum brownish yellow; basal flagellar segments short-oval, the outer ones more elongate, exceeding their verticils. Head brownish yellow, gray pruinose; anterior vertex about equal in width to the greatest diameter of the scape.

Thorax light yellow, virtually unpatterned; pronotum and praescutum with sparse black setae. Halteres short, stem yellow, knob dark brown. Legs with coxae and trochanters light yellow, remaining segments obscure yellow, outer tarsal segments darker; claws long and nearly straight, at base with a concentration of two long spines and other smaller spinules and denticles. Wings (Fig. 21) brownish yellow, prearcular and costal fields clearer yellow; stigma short-oval, scarcely darker than the ground; veins light brown, more yellowed in the brightened fields. Macrotrichia on veins beyond general level of origin of *Rs,* with a few at ends of both Anal veins. Venation: *Sc* relatively long, Sc_1 ending about opposite two-fifths *Rs,* Sc_2 near its tip; cell *1st* M_2 rectangular, longer than vein M_3 beyond it.

Abdominal tergites weakly infuscated, posterior borders broadly yellowed, sternites and hypopygium more uniformly yellow. Ovipositor with cerci slender, shorter than the long straight hypovalvae, the latter blackened at bases. Male hypopygium (Fig. 25) with tergite, *t,* relatively long, posterior border shallowly emarginate, margins thickened; cephalic border strongly produced into an obtuse point, lateral ends of plate elongate. Basistyle, *b,* with apex blackened, glabrous; ventromesal lobe simple, base membranous, apical third with moderately long setae. Dorsal dististyle, *d,* strongly curved, narrowed at near midlength, thence extended into a long straight point; ventral style smaller than the basistyle, rostral prolongation relatively stout, with two long pale spines placed close together near base of prolongation. Gonapophysis, *g,* with mesal-apical lobe straight, blackened, tip narrowly obtuse. Aedeagus, *a,* slender, apex conspicuously bilobed.

Habitat: Basutoland. Holotype, ♂, Mamalapi Mountain, January 20, 1957 (Amy Jacot-Guillarmod). Allotopotype, ♀. Paratopotypes, 6 ♂ ♀.

The species is dedicated to the collector. The most similar species are *Limonia (Dicranomyia) peringueyi* (Alexander) and *L. (D.) subconfusa* Alexander, distinguished by the coloration and, especially, the hypopygial structure, including the tergite, dististyles and gonapophyses.

17. **Dicranoptycha matengoensis** sp. n.

Size medium (wing 11-12 mm.); general coloration fulvous, abdomen of male with a broad subterminal darkened ring; femora yellow, tips narrowly brownish black; wings fulvous; male hypopygium with outer dististyle broadly expanded on about the basal half, thence suddenly narrowed into a spine, inner dististyle bent at an angle at near midlength.

Male. — Length, about 10-10.5 mm.; wing, 11-11.5 mm.

Female. — Length, about 12-13 mm.; wing, 12 mm.

Rostrum orange; palpi brownish black, basal segment pale. Antennae with scape and lower face of pedicel brownish black, remainder obscure yellow, outer flagellar segments more testaceous. Head chestnut brown to darker brown, with long erect setae.

Thoracic dorsum fulvous, polished, pleura somewhat more yellowed. Halteres pale, knob weakly infuscated. Legs with coxae fulvous; the trochanters yellow; the femora yellow, tips narrowly brownish black; tibiae and basitarsi yellow, tips still more narrowly infuscated, outer tarsal segments brownish black; scale like setae very long and narrow as compared with allied species, poorly differentiated from the normal bristles. Wings fulvous, prearcular and costal fields slightly more saturated, stigma not differentiated; veins yellowish brown to pale brown. Venation: Basal section of R_{4-5} arcuated, M_{1-2} less so; *m-cu* at or before midlength of cell *1st* M_2.

Abdominal tergites fulvous, sternites more yellowed, in male segments six to eight dark brown to form a broad ring, this lacking in female; hypopygium orange. Ovipositor with cerci very slender, gently upcurved, hypovalvae stouter and more nearly straight. Male hypopygium (Fig. 33) with basistyle, *b*, short and stout, mesal lobe densely provided with long delicate setae. Outer dististyle, *d*, broadly expanded on about the basal half, thence abruptly narrowed into a slender spinelike beak, the decurved tip acute; inner style narrowed and bent at a right angle shortly beyond midlength, apex obtuse to subtruncate. Gonapophysis, *g*, a curved pale blade. Aedeagus transversely expanded.

Habitat: Tanzania.

Holotype, ♂, Ugano, Matengo Highlands, 1,500-1,700 meters, February 21-29, 1936 (Zerny). Allotopotype, ♀. Paratopotypes, 3 ♂ ♀, February 21-29, March 11-20, 1936 (Zerny).

The species is most similar to certain species in Madagascar, as *Dicranoptycha spinigera* Alexander and *D. verticillata* Alexander, differing conspicuously in hypopygial structure.

18. **Dicranoptycha stuckenbergi** sp. n.

General coloration of thorax fulvous; legs black; wings light yellow, costal border narrowly dark brown, cell M_2 open by atrophy of basal section of M_3; abdomen cinnamon brown with a narrow blackened subterminal ring; male hypopygium with tergite terminating in two slender widely separated lobes, outer dististyle slender, blackened.

Male. — Length, about 9.5-10.5 mm.; wing, 10.5-11.5 mm. Rostrum and palpi black. Antennae black, scape more pruinose, relatively short, flagellar segments long-oval, subequal to their verticils. Head dark brownish gray; anterior vertex relatively broad, about three times the diameter of scape.

Thorax fulvous, virtually unpatterned; mesonotal setae sparse but long on praescutum and scutum, much shorter on scutellum, lacking on postnotum. Halteres obscure yellow. Legs with coxae fulvous, trochanters more yellowed; remainder of legs black; vestiture appressed and relatively inconspicuous, without modified interpolated scales. Wings (Fig. 26) light yellow, costal border narrowly dark brown, including cell *C*, beyond vein *Sc* slightly more extensive, encroaching on cell R_1, ending at R_3; posterior borders of Anal cells vaguely darkened; veins of darkened portions brown, the remainder yellow, inconspicuous against the ground; fold from vein *1st A* in cell *Cu* white, conspicuous. Costal fringe of male short; veins of outer two-thirds of wing with trichia, abundant on the thickened outer part of vein R_1; relatively few trichia at ends of each Anal vein. Venation: Branches of *Rs* generally parallel to one another, decurved at outer ends, especially R_3; cell M_2 open by atrophy of basal section of M_3; *m-cu* more than its own length beyond fork of *M*.

Abdomen elongate, cinnamon brown, subterminal segments blackened to form a narrow ring, hypopygium more yellowed. Male hypopygium (Fig. 34) with posterior border of tergite, *t*, produced caudad into two slender lobes that are tipped with several long setae, separated by a broad U-shaped notch. Outer dististyle, *d*, unusually slender, black, nearly straight, tip narrowed and bent at a right angle into a short spine, lower face

before apex with microscopic denticles; inner style stouter and slightly longer, apex obtuse. Gonapophysis, *g*, a slender gently curved pale rod, tip obtuse, at base with an oval lobe. Phallosome, *p*, a compact mass, the major element oval, the apex rounded.

Habitat: Republic of South Africa.

Holotype, ♂, Garden of Eden Forest, Knysna District, East Cape Province, October 10, 1959 (Brian and Pamela Stuckenberg). Paratopotypes, 2 ♂♂ and three additional broken specimens.

This very distinct fly is dedicated to Brian Stuckenberg, distinguished student of the Diptera, who has added greatly to our knowledge of the crane flies of South Africa. It is very different from the only other species presently known from South Africa, *Dicranoptycha natalia* Alexander. The only other regional member of the genus with cell M_2 of the wings open is *D. confluens* Alexander, of Nyasaland, which has the thorax differently colored and with the wing pattern distinctive, fulvous brown with the costal border yellowed.

Hexatomini

19. **Limnophila (Afrolimnophila) antimena** sp. n.

General coloration dark brown, praescutum with a delicate blackened central stripe; femora dark brown, tibiae and tarsi paler brown; wings yellowish brown, sparsely patterned with darker brown, cell R_3 virtually sessile; male hypopygium with the outer dististyle glabrous, slightly curved, with a small lateral tubercle before apex.

Male. — Length, about 10 mm.; wing, 10 mm.; antenna, about 1.9 mm. Rostrum black, sparsely pruinose; palpi black. Antennae brownish black, scape sparsely pruinose, pedicel more infuscated at base; scape cylindrical, longer than the following two segments combined; first flagellar segment narrowed at base, broadened outwardly, lower face a trifle produced, succeeding two or three segments smaller but enlarged and produced beneath, separated from one another by short apical necks; outer segments passing through oval to subcylindrical; verticils of outer segments long and conspicuous, of the more proximal segments shorter and less conspicuous, these with their expanded surfaces with a dense white pubescence. Head above dull black, with a sparse yellow bloom that is most evident laterally; anterior vertex relatively broad, nearly four times the diameter of scape, behind the antennae at narrowest part of vertex with a small circular pit; head narrowed behind.

Pronotum massive, dark brown. Mesonotum dark brown, sparsely pollinose, praescutum with a delicate blackened central stripe that is narrowed behind, scarcely reaching the suture; tuberculate pits lacking, pseudosutural foveae transverse, elongate, narrowly blackened. Pleura dark brown, dorsopleural membrane dusky. Halteres dark brown, base of stem narrowly yellow. Legs with coxae dark brown, sparsely pruinose; trochanters reddish brown; femora dark brown, extreme base vaguely more brightened, tibiae and tarsi paler brown; tibial spurs gently sinuous especially near tips. Wings (Fig. 27) yellowish brown, sparsely patterned with darker brown, including a narrow seam at cord and more restricted areas at origin of *Rs,* outer end of cell *1st* M_2, fork of M_{1-2}, and as marginal spots at ends of veins R_3, R_4 and paler on veins M_3 to *2nd A;* prearcular field and costal border more saturated than remainder of ground; veins yellowish brown, darkened in the patterned areas. Venation: *h* oblique; Sc_1 longer than Sc_2, ending a short distance before fork of *Rs;* R_{1-2} slightly shorter than R_2; cell R_3 virtually sessile, vein R_{2-3-4} being reduced to a punctiform element; inner ends of cells R_4, R_5 and *1st* M_2 in virtual transverse alignment; cell M_1 longer than its petiole; *m-cu* just beyond midlength of cell *1st* M_2; anterior arculus present.

Abdomen, including hypopygium, dark brown or brownish black. Male hypopygium (Fig. 35) with posterior border of tergite, *t,* truncate. Basistyle, *b,* stout. Outer dististyle, *d,* glabrous, apex slightly curved, blackened, narrowed to an acute spine, at the bend with a very small lateral point or tubercle; inner style unusually stout, weakly bilobed at apex, disk with abundant long dark setae. Aedeagus, *a,* elongate, basal three-fourths straight, narrowed apex recurved. Gonapophysis an elongate pale blade. Proctiger pale and membranous, with delicate setulae.

Habitat: Parc National Albert. Holotype, ♂, Kamatembe, Riviere Bishakishaki, 2,100 meters, January 7-23, 1935 (De Witte); No. 1039.

The most similar regional species include *Limnophila (Afrolimnophila) abyssinica* Alexander, *L. (A.) antimenoides* Alexander, and *L. (A.) vansomereni* Alexander, all being distinguished among themselves in coloration of the body, legs and wings, and in hypopygial structure.

20. **Limnophila (Afrolimnophila) ghesquierei** sp. n.

General coloration of body and appendages dark brown, brownish black to black; wings broad, strongly tinged with brown, more saturated in the prearcular and costal fields and in cell *2nd A,* remainder of wing

with darker seams over cord, outer end of cell *1st* M_2, and at ends of longitudinal veins; ovipositor and genital segment of female obscure orange to yellow.

Female. — Length, about 7.5 mm.; wing, 7 mm. Rostrum and palpi black. Antennae with scape and pedicel brown, flagellum brownish black; flagellar segments oval to long-oval with very long conspicuous verticils; terminal segment longer than the penultimate. Head black, heavily brown pollinose; anterior vertex broad, exceeding four times the diameter of scape.

Thorax almost unifomrly dark brown, mesonotum somewhat darker, without pattern; setae of praescutal interspaces black, erect. Halteres and legs uniformly black; legs relatively short, conspicuously hairy. Wings (Fig. 28) broad, strongly tinged with brown, more saturated in the prearcular and costal fields and in cell *2nd A;* still darker brown clouds at ends of veins Sc_1, R_{1-2}, R_2 and R_3, along cord and outer end of cell *1st* M_2; paler brown seams over *M, 2nd A,* and as marginal spots at ends of veins M_2 to *2nd A* inclusive; veins brown, slightly darker in the patterned areas. Venation: *Sc* moderately long, Sc_1 ending a short distance before fork of *Rs,* Sc_2 near its tip; *Rs* long and nearly straight, subequal in length to the upper radial branch, cell R_3 very short-petiolate to virtually sessile, nearly as long as cell R_4; inner ends of cells R_4, R_5 and *1st* M_2 in oblique to nearly transverse alignment; cell M_1 nearly twice its petiole; cell *1st* M_2 short- subrectangular to hexagonal; *m-cu* about its own length beyond fork of *M,* subequal to distal section of Cu_1; cell *2nd A* relatively narrow.

Abdomen black, genital shield obscure orange; valves of ovipositor horn-yellow; cerci long and slender, gently upcurved.

Habitat: Democratic Republic of Congo.

Holotype, ♀, Eala, July 1935 (J. Ghesquière).

The species is named for the collector, Jean Ghesquière, who has collected numerous insects for the Belgian Musée Royal since 1919. While being generally similar to species such as *Limnophila (Afrolimnophila) antimena* sp. n., and allies listed under the last discussed species, the present fly differs in many details of coloration of the body, legs and wings. The darkened wing pattern is greatly reduced and suggests the condition found in the subgenus *Elporiomyia* Alexander (1964) but from the structure of the ovipositor the present fly belongs to *Afrolimnophila.*

21. **Pilaria chionomera** Alexander

Pilaria chionomera Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 293 (in key); 1956.

General coloration light yellowish brown, pleura more yellowed; antennae relatively long, flagellar segments with conspicuous verticils; legs brown, outer tarsal segments chiefly white; wings with a strong brownish tinge, stigma oval, darker brown, with abundant trichia; cell M_1 longer than its petiole; *m-cu* at or beyond midlength of cell *1st* M_2.

F e m a l e. — Length, about 7.5 mm.; wing, 6.8 mm.; antenna, about 2.8 mm. Rostrum short, light yellow; palpi brown. Antennae relatively long for this sex, indicating an even longer organ in the male; scape yellow, pedicel and flagellum brown; flagellar segments long-cylindrical, verticils very long, approximately twice the segments, unilaterally distributed, with scattered shorter verticils that are subequal to the segments, and still more numerous short setae that are curved at tips, together with a still shorter vestiture of pale appressed setulae. Head shiny light brown; anterior vertex broad, nearly four times the diameter of scape.

Thoracic dorsum shiny light brown or yellowish brown, the pleura still more yellowed, scutellum slightly darker. Halteres brownish black, base of stem restrictedly yellow. Legs with coxae and trochanters yellow; a single leg (posterior) remains, dark brown, outer third of basitarsus and tarsal segments two and three white, outer tarsal segments infuscated; tibial spurs apparently lacking. Wings (Fig. 29) strongly tinged with brown, the basal fourth somewhat paler; stigma long-oval, darker brown, with abundant trichia as in the genus; veins brown. Venation: *Sc* relatively short, Sc_1 about opposite three-fourths to four-fifths *Rs*, Sc_2 near its tip; R_2 oblique, subequal to R_{2-3}; R_{2-3-4} nearly three times the basal section of R_5; inner ends of cells R_3, R_5 and *1st* M_2 in approximate transverse alignment; cell M_1 present, longer than its petiole; *m-cu* at or beyond midlength of lower face of cell *1st* M_2; cell *2nd A* relatively long and narrow.

Abdominal tergites light brown, sternites somewhat paler, subterminal tergites dark brown; ovipositor with genital shield obscure yellow basally, tips infuscated; valves elongate, cerci darkened basally, outwardly paling to horn yellow, gently upcurved.

Habitat: Democratic Republic of Congo.

Holotype, ♀, Eala, July 1935 (J. Ghesquière).

Comparisons with the related regional species, *Pilaria brevitarsis* Alexander, *P. brevivena* Alexander, and *P. subalbipes* Alexander, have been given in the Alexander 1956 report cited in the introduction to the present paper.

22. **Hexatoma (Parahexatoma) beieri** sp. n.

Size large (wing of male over 12 mm.); general coloration of body, antennae, halteres and legs brownish black to black; wings with *Sc* long, Sc_1 ending beyond fork of *Rs*; R_2 beyond fork of R_{2-3-4}, a short R_{2-3} being preserved.

Male. — Length, about 12-13 mm.; wing, 12.5-13 mm.; antenna, about 1.5-1.6 mm. Rostrum and palpi black. Antennae of male 7-segmented; scape and pedicel brownish black, flagellum black, terminal segment very short, the segments with very long verticils. Head brownish black, anterior vertex dark brown, with a conspicuous tubercle that is directed cephalad, at end divided into two small divergent knobs.

Thorax brownish black, praescutum subnitidous. Halteres and legs black. Wings (Fig. 30) strongly suffused with blackish, costal border and a seam over *Rs* still darker; veins brown. Veins beyond cord with abundant trichia. Venation: *Rs* very long; R_2 beyond fork of R_{2-3-4}, a short element R_{2-3} being preserved; *m-cu* at or just beyond fork of *M*.

Abdomen elongate, brownish black.

Habitat: Tanzania.

Holotype, ♂, Ugano, Matengo Highlands, 1,500-1,700 meters, March 11-20, 1936 (Zerny). Paratopotypes, 2 broken ♂♂.

The species is named in honor of Dr. Max Beier. It is the first representative of the subgenus *Parahexatoma* Alexander to be recorded from the African mainland. The fly is quite distinct from the rather numerous members of the subgenus known from Madagascar and the Seychelles, as in the venation, with vein R_2 lying beyond the fork of R_{2-3-4}, the previously described species having vein R_2 some distance before the fork, preserving a long element R_{3-4}.

23. **Hexatoma (Eriocera) commutabilis aurantiiventris** subsp. n.

Male. — Length, about 13 mm.; wing, 12 mm.; antenna, about 2.2 mm.

Female. — Length, about 15-17 mm.; wing, 13-15.5 mm.

Very similar to typical *commutabilis*, differing chiefly in details of coloration. Thorax almost uniformly light brown, posterior sclerites of notum and the pleura scarcely brighter than the praescutum. Abdomen of both sexes almost uniformly orange,

lateral borders very narrowly and indistinctly darkened, third sternite with a more or less distinct darkened cloud.

Typical *commutabilis* Alexander, from Nigeria, was described as a subspecies of *leonensis* Alexander, but now is believed to represent a valid species.

Habitat: Democratic Republic of Congo.

Holotype, ♂, Eala, July 1935 (J. Ghesquière). Allotopotype, ♀. Paratopotype, ♀, July 16, 1935.

24. **Elephantomyia (Elephantomyia) argentipleura** sp. n.

General coloration brown, thoracic pleura with two conspicuous longitudinal silvery stripes; femora brownish yellow, tips gradually darkened; wings weakly tinged with brown, patterned with darker brown, without arcular darkening; abdomen dark brown, lateral margins narrowly silvery; male hypopygium obscure yellow; outer dististyle bidentate; phallosome with gonapophyses flattened, their mesal-apical lobes narrowed and produced.

M a l e. — Length, excluding rostrum, about 6-6.5 mm.; wing, 6.5-7.5 mm.; rostrum, about 5.5 mm. F e m a l e. — Length, excluding rostrum, about 6.5-8.5 mm.; wing, 6-8 mm.; rostrum, about 4-6.5 mm. Rostrum black, elongate, approximately three-fourths the wing. Antennae brownish black, basal fusion-segment more blackened; verticils of outer segments very long. Head brown; anterior vertex about one-half wider than the diameter of scape.

Mesonotal praescutum brown, yellow pollinose, with three more blackened stripes; posterior sclerites of notum dark brown, central area of scutum more yellow pollinose. Pleura dark brown, striped longitudinally with silvery, including a dorsal line that includes the pronotum extending to the wing root and a broader more ventral stripe on dorsal sternopleurite and metapleura. Halteres obscure yellow. Legs with coxae obscure yellow, base of fore pair narrowly darkened; trochanters brownish yellow; femora brownish yellow, tips gradually and narrowly more darkened; remainder of legs dark brown. Wings (Fig. 31) weakly tinged with brown, with darker brown seams at origin of *Rs*, cord, and outer end of cell *1st* M_2; paler brown clouds at wing tip and along vein *Cu* in cell *M;* stigma long-oval, darker brown; no arcular darkening; veins light brown. Venation: Cell *1st* M_2 long-rectangular, about twice as long as wide; *m-cu* beyond fork of *M,* in cases to fully its own length; cell *2nd A* narrow.

Abdominal tergites dark brown, narrowly bordered by silvery, sternites paler brown; hypopygium obscure yellow. Male hypo-

pygium (Fig. 36) with basistyle, *b,* stout, mesal face near proximal end with a concentration of strong setae. Dististyles, *d,* small, the outer about one-third the length of the basistyle, tip bispinous, axial spine stouter; inner style longer, outer half blackened. Phallosome, *p,* with lateral arms much resembling interbases, appearing as long flattened blades; gonapophysis, *g,* with mesal-apical lobe, gently curved, in shape suggesting the condition found in many species of *Limonia;* aedeagus very small and narrow.

Habitat: Madagascar.

Holotype, ♂, Anjavidilava, Andringitra Massif, 2,020 meters, January 17-21, 1958 (Stuckenberg). Allotopotype, ♀, pinned with type. Paratopotypes, 8 ♂ ♀.

The most similar regional species include *Elephantomyia (Elephantomyia) barda* Alexander and *E. (E.) isakana* Alexander. The former has the wings virtually unpatterned except for the stigma; the latter has the wing pattern much as in the present fly, differing especially in the coloration of the thoracic pleura and in the hypopygial structure, including the longer aedeagus and the shape of the inner gonapophyses.

25. **Elephantomyia (Elephantomyia) laticincta** sp. n.

Allied to *isakana;* mesonotal praescutum cinnamon brown with a darker brown central stripe; femora yellow, tips narrowly brownish black; wings whitish yellow, patterned with brown, including broad seams over the central veins; abdominal tergites in male brown, outer lateral angles broadly orange, in female more uniformly brown; male hypopygium with aedeagus relatively long and slender; unpaired element of phallosome sinuous, apex slightly dilated and obtuse.

Male. — Length, excluding rostrum, about 7-8 mm.; wing, 8-10 mm.; rostrum, about 6.5-7.3 mm. Female. — Length, excluding rostrum, about 8 mm.; wing, 8 mm.; rostrum, about 6 mm. Rostrum elongate, a little shorter than remainder of body, dark brown. Antennae black. Head brownish gray; anterior vertex of male subequal in width to diameter of scape.

Pronotum light cinnamon brown. Mesonotal praescutum cinnamon brown with a darker brown central stripe and vaguely indicated sublateral areas; posterior sclerites of notum chiefly dark brown, central region of scutum and the pleurotergites paler. Pleura chiefly grayish yellow, palest in the holotype. Halteres yellow. Legs with coxae and trochanters obscure yellow; femora yellow, tips narrowly brownish black, more narrowly in the type; tibiae and tarsi light brown. Wings (Fig. 32) whitish yellow, patterned with brown, including broad seams at origin of *Rs,* cord and outer end of cell *1st* M_2; stigma brown; wing tip and

apical clouds in cells M_4 and Cu_1 paler brown; a brown seam along vein *Cu* in a paratype, not present in the type; veins brown, those at base paler. Costal fringe short. Venation: Anterior branch of *Rs* below the stigma gently sinuous, as in *isakana;* cell *1st* M_2 nearly as long as vein M_{1-2} beyond it.

Abdominal tergites in male conspicuously patterned, centrally with a broad brown basal triangle, the point behind, leaving broad orange posterior lateral borders, eighth tergite more uniformly darkened, sternites and hypopygium yellowed; in female abdomen more uniformly brown. Male hypopygium (Fig. 37) with cephalic mesal aspect of basistyle, *b,* bearing a concentration of strong black bristles and more abundant longer delicate pale setae. Outer dististyle, *d,* unequally bidentate at apex, the axial spine stouter; inner style with basal half enlarged, with strong setae, outer end heavily blackened, with the usual two pairs of setae. Phallosome, *p,* with the aedeagus straight, about twice as long as the lateral apophyses or interbases; unpaired element longer, the apex slightly dilated, obtuse; in *isakana* narrowed to an acute point.

Habitat: Madagascar.

Holotype, ♂, Anjavidilava, Andringitra Massif, 2,020 meters, January 17-21, 1958 (Stuckenberg). Allotopotype, ♀, January 11-14, 1958. Paratopotype, one ♂ with allotype; paratype, ♂, Ankasoka, Route Sakato, December 1956 (Robinson), through Paulian.

Elephantomyia (Elephantomyia) laticincta is closely related to *E. (E.) isakana* Alexander, differing in the more evident wing pattern and especially in hypopygial structure, particularly the phallosome, including both the aedeagus and apophyses.

Eriopterini

26. **Clydonodozus phaeosomus** sp. n.

General coloration of body brownish black to black; knob of halteres dark brown; femora black, bases obscure yellow, more conspicuously so on fore pair, tibiae dark reddish brown; wings brownish yellow with a restricted dark brown pattern.

Female. — Length, about 16 mm.; wing, 14.7 mm. Rostrum and palpi black. Antennae black throughout; flagellar segments subcylindrical, outer ones becoming more slender and outwardly attenuated, verticils elongate, especially of outer segments. Head black, sparsely yellow pollinose; anterior vertex broad, on lower surface eyes contiguous.

Pronotum small, brownish black medially above, sides yellow. Mesonotum dark brown, sparsely yellow pollinose on humeral parts of praescutum, more pruinose behind, heavily so on scutellum and mediotergite. Pleura black, heavily pruinose, especially on pteropleurite and on pleurotergites. Halteres with stem yellow, outer end and knob dark brown. Legs with coxae dark brown, fore pair paler apically; trochanters yellow; femora black, obscure yellow basally, more conspicuously so on fore legs where about the basal third is clear yellow; tibiae dark reddish brown; tarsi dark brown, passing into black outwardly. Wings (Fig. 38) brownish yellow, prearcular and costal fields more saturated, cell *Sc* clearer yellow; a restricted dark brown pattern that includes a small spot at origin of *Rs* and a narrow but virtually complete seam over the cord, most intense at stigmal region; a spot at tip of vein R_3 and a seam at outer end of cell *1st* M_2 dark brown; very small to scarcely evident darkenings at *h*, on vein *R* midway to origin of *Rs* and on Sc_2; veins *M*, *Cu* and cell *2nd A* slightly infuscated; veins brownish yellow, darker in the patterned areas. Venation: *Sc* long, Sc_1 ending about opposite *r-m*, Sc_2 some distance from its tip, at near two-thirds *Rs*, the latter nearly square at origin; R_{2-3-4} virtually lacking, R_5 arising just basad of R_{2-3}; cell M_1 subequal to its petiole; *m-cu* at near two-thirds the length of cell *1st* M_2; outer third of vein *2nd A* sinuous.

Abdomen brownish black, incisures of outer tergites very narrowly obscure yellow, including the broader basal ring and extreme posterior border of the preceding segment; genital shield orange; valves of ovipositor elongate, horn-colored.

Habitat: Parc National Albert. Holotype, ♀, Kamatembe, Riviere Bishakishaki, 2,100 meters, April 3-23, 1934 (De Witte); No. 345.

The most similar species include *Clydonodozus brevicellulus* Alexander, *C. neavei* Alexander, *C. pallidistigma* Alexander, *C. pulchripes* Alexander, and *C. stuckenbergi* Alexander. Most of these species are discussed in the author's Ruwenzori report, 1956, cited in the Introduction, where a key is given. A further striking new species has been described by Lindner from Torino, East Africa, as *Clydonodozus alexanderi* (Stuttgarter Beiträge zur Naturkunde, No. 13: 5-6, fig. 2 (wing); 1958).

27. **Limnophilomyia matengoensis** sp. n.

General coloration of mesonotum and pleura dark brown; antennae of male very long, nearly equal to the body; legs brown, tibiae dirty white, tarsi snowy white; wings strongly tinged with brown, unpatterned, cell M_2 open by the atrophy of *m;* male hypopygium with the tergal

lobes subtriangular in outline; dististyle elongate, outer third very slender; aedeagus very large and powerful, arcuated dorsally, with a small ventral appendage at the bend.

Male. — Length, about 6 mm.; wing, 6.6-6.8 mm.; antenna, about 5.2-6 mm. Rostrum brown; palpi black. Antennae of male very long, nearly equal to the body, dark brown; flagellar segments very long-cylindrical, with abundant dense erect setae that are slightly longer than the diameter of the segment. Head dark brown; anterior vertex reduced to a very narrow strip.

Thoracic dorsum dark brown, slightly paler behind; humeral region of praescutum restrictedly obscure yellow, dorsal pleurotergite paler. Pleura dark brown. Halteres with stem dusky, with knob infuscated. Legs with coxae medium brown; trochanters obscure yellow; femora brown; tibiae dirty white, proximal ends slightly more obscured; tarsi snowy white. Wings (Fig. 39) strongly tinged with brown, unpatterned; veins darker brown. Venation: Sc_1 ending about opposite fork of *Rs*, Sc_2 near its tip; R_2 at or just before the fork; cell M_2 open by atrophy of *m*; *m-cu* variable in position, from just before to shortly beyond the fork of *M*.

Abdomen dark brown, including the hypopygium. Male hypopygium (Fig. 45) with tergite, *t*, distinctive, posterior border produced into two subtriangular lobes that are separated by a narrow notch; mesal parts of lobes with abundant setulae and fewer long scattered setae, the lateral rounded angles glabrous or virtually so. Basistyle, *b*, relatively stout, mesal face at base with a low dusky lobe. Dististyle, *d*, elongate, proximal two-thirds more broadened, outer end narrowed to a long slender rod, tip slightly decurved, at base of narrowed portion with a strong seta. Aedeagus, *a*, very large and powerful, at near mid-length bent upward and with a small ventral appendage, apex very obtuse.

Habitat: Tanzania.

Holotype, ♂, Lupembe Berg, Matengo Highlands, 1,800-2,000 meters, December 11-20, 1935 (Zerny). Paratopotype, ♂.

The genus *Limnophilomyia* Alexander has been discussed in some detail in two reports cited by the writer in the introduction (1956: 335-338; 1964: 402-405). The species most similar to the present fly is *Limnophilomyia niveipes* Alexander, of Uganda, this differing especially in the coloration of the body and legs and in hypopygial structure, including the tergite, dististyle and aedeagus.

28. **Teucholabis (Euparatropesa) witteana** Alexander

Teucholabis (Euparatropesa) witteana Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 320 (in key); 1956.

General coloration polished black, the pronotum, pretergites, lateral praescutal borders and the mesonotal scutellum yellow; halteres and femora black; wings subhyaline, cell M_2 open by atrophy of basal section of vein M_3; male hypopygium with three dististyles or profound branches of the same.

Male. — Length, about 5.5-5.7 mm.; wing, 5.8-6 mm.; antenna, about 1.7 mm. Female. — Length, about 6.8-7 mm.; wing, 6.3-6.5 mm. Rostrum polished black; palpi brownish black. Antennae black throughout, relatively long, if bent backward extending to shortly beyond the wingroot; flagellar segments long-oval, subequal to or slightly shorter than their verticils. Head black.

Pronotum obscure yellow above, black laterally, pretergites and lateral borders of praescutum more orange yellow. Mesonotal praescutum and scutum black, sparsely pruinose, central part of suture vaguely more reddened; scutellum and posterior angles of scutal lobes yellow, mediotergite black medially, pleurotergite black ventrally, the suture separating these extensively yellow. Pleura black, sparsely pruinose, especially behind, dorsopleural membrane obscure yellow. Halteres blackened. Legs with coxae and trochanters black, fore trochanters slightly paler; femora black, bases vaguely brightened; tibiae obscure yellow, tips blackened; tarsi black; claws simple; tarsal segments one to three, inclusive, each with strong spinoid setae on flexor surface near apex. Wings (Fig. 40) subhyaline, base and costal region more yellowed; veins brown, more yellowed in the brightened fields. Venation: *Sc* long, Sc_1 ending about opposite three-fourths to four-fifths *Rs,* the latter long, nearly straight; vein R_3 oblique, shorter than R_{1-2}; cell M_3 open by atrophy of basal section of M_3; cell *2nd* M_2 slightly longer than its petiole; *m-cu* at or close to fork of *M;* vein *2nd A* only gently sinuous.

Abdomen black, hypopygium fulvous. Male hypopygium (Fig. 46) with three dististyles, *d,* or profound branches, these subterminal, the outer apical part of basistyle produced; outer style a flattened yellow plate that is produced into a long slender rod; intermediate style pale on basal half, at apex produced into a strong black spine, the margin black from this elevated into a low ridge or crest that is microscopically serrulate; inner style of approximately similar size and shape to the last, the apex produced into a flattened black plate or blade, margin

obtuse, more or less roughened or crenulate. Aedeagus stout basally, outer third narrowed and bearing numerous pale setae.

Habitat: Rwanda. Uganda. Holotype, ♂, Nyasheke, Volcan Nyamuragira, Parc National Albert, 1,820 meters, June 14-26, 1935 (De Witte). Allotopotype, ♀, without head. Paratopotypes, 5 ♂ ♀, in poor condition; paratypes, 1 ♂, Kivu, Sake, Lac Kivu, Rwanda, 1,460 meters, February 19-22, 1934; Ruwenzori Range, Fort Portal, 5,000 feet, December 1934 - January 1935 (Edwards), No. 182; Namwamba Valley, 6,500 feet, December 1934 - January 1935 (Edwards), No. 182.

The species is dedicated to the collector of the important materials from the Parc National Albert, Mr. G. F. De Witte. It is the first representative of the subgenus *Euparatropesa* Alexander to be discovered in the Ethiopian region. In the Neotropical fauna various species of the so-called *fasciolaris* group are found, having the venation much as in the present fly but with the details distinct, the most similar of such species being *Teucholabis (Euparatropesa) invenusta* Alexander, of Costa Rica. The structure of the male hypopygium of the present fly while agreeing in the basic features differs in all details from those of the American species.

29. **Gymnastes (Gymnastes) subnuda** Alexander

Gymnastes subnuda Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 322 (in key); 1956.

General coloration black, vertex behind the antennal bases more reddened, pruinose; thorax with dorsopleural membrane pale yellow; legs dark brown; wings whitish, restrictedly patterned with brown, including narrow bands over cord and before wing tip, with a conspicuous seam along vein *Cu;* cell M_2 open by atrophy of *m.*

F e m a l e. — Length, about 6 mm.; wing, 5.3 mm. Rostrum and palpi black. Antennae black throughout; flagellar segments oval, shorter than their verticils, the outer ones smaller, short-oval. Head black, heavily pruinose, more reddened behind the antennal bases; anterior vertex broad, about three times the diameter of scape.

Pronotum dark brown, opaque. Mesonotal praescutum chiefly polished black, pretergites narrowly yellow; posterior sclerites of notum slightly more pruinose, caudal borders of scutal lobes narrowly reddened. Pleura and pleurotergite black, sparsely pruinose, especially behind, dorsopleural membrane conspicuously pale yellow. Halteres broken. Legs with coxae and trochanters black; remainder of legs dark brown, outer tarsal segments black; legs with vestiture more or less denuded, the usual scales apparently fewer than in *teucholaboides.* Wings (Fig. 41) whitish, restrictedly patterned with brown, including cells *C* and *Sc,* a band

over the cord, a subterminal cloud extending from veins R_4 to M_3, and a conspicuous seam over vein *Cu*, chiefly in cell *Cu*, interrupted shortly before *m-cu*, ending at about two-thirds the length of vein Cu_1; posterior prearcular field and both Anal cells uniformly whitened; veins brown, somewhat darker in the patterned areas. Venation: Sc_1 ending about opposite one-third *Rs*, the latter strongly angulated near origin; *r-m* about one-fourth its length before fork of *M*; R_2 oblique, longer than R_{2-3-4}; basal section of M_{1-2} very short, cell M_2 open by atrophy of *m*, cell M_3 subequal to its petiole, *m-cu* at or close to fork of *M*; cell *2nd A* broad.

Abdomen black, outer sternites with extreme posterior borders yellowed, most evident on central parts. Ovipositor with genital shield black; cerci compressed-flattened, reddish horn color.

Habitat: Rwanda. Holotype, ♀, Ngesho, Kivu, 2,000 meters, April 3-6, 1934 (De Witte).

The other regional members of the genus include *Gymnastes (Gymnastes) teucholaboides* (Alexander) and *G. (G.) dilatipes* Alexander, best distinguished from the present fly by the closed cell *1st* M_2 of the wings.

30. **Trentepohlia (Trentepohlia) amantis** Alexander

Trentepohlia (Trentepohlia) amantis Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 313, 315 (in key); 1956.

General coloration of mesonotum dark brown, humeral region of praescutum broadly yellow, parascutella, pleurotergite and pleura yellow; halteres infuscated; legs yellowish white, femoral tips narrowly clearer white; wings whitish, handsomely pictured with brown to form an irregular pattern; veins *Cu* and *1st A* narrowly separated at margin.

Female. — Length, about 7.5 mm.; wing, 7-7.2 mm. Rostrum and palpi dark brown. Antennae dark brown throughout; flagellar segments long-cylindrical, verticils short. Front gray pruinose, vertex brownish ochreous, posterior orbits darker; anterior vertex narrow, the carina extending backward virtually to the occiput.

Cervical region and pronotum dark brown. Mesonotum chiefly dark brown, humeral region of praescutum broadly yellow, lateral borders obscure brownish yellow; posterior sclerites chiefly dark brown, posterior margins of scutum, parascutella and pleurotergite yellow. Pleura yellow, whitish pollinose, more evident on the mesepimeron. Halteres infuscated, base of stem narrowly whitened. Legs with coxae and trochanters pale yellow; remainder of legs chiefly pale yellowish white, femoral tips narrowly still

more whitened. Wings with ground color whitish, handsomely patterned with brown, forming an irregular pattern as follows: A broken band at cord, usually more expanded in radial field and over the fork of *M,* the latter extended along the medial veins to the wing tip in cells R_3 to R_5 inclusive; from this area narrow darkened lines extend to the costal border in cells R_2 and R_3, these sometimes faint to poorly indicated; basad of cord dark areas at origin of *Rs* and caudad across cells *R* and *M,* the former in cases obsolete or nearly so; small vague markings nearer wing base in cells *Cu* and *1st A* and along vein *Cu* to the cord; veins yellow, darker in the patterned areas. Venation: *Rs* arcuated at origin; R_{2-3-4} a little shorter than R_{3-4}; vein R_3 oblique, sinuous; veins Cu_1 and *1st A* narrowly separated or barely contiguous at margin; cell *2nd A* unusually narrow, especially at the pointed outer end.

Abdominal tergites dark brown, sternites bicolored, yellow, the posterior borders brown, on the more proximal segments including about the outer fourth or fifth of segment, more extensively darkened outwardly.

Habitat: Parc National Albert. Holotype, ♀, Gitebe, Volcan Nyamuragira, 2,324 meters, June 14-26, 1935 (De Witte) No. 1514. Paratopotype, 1 ♀; paratype, ♀, Mubiliba, Volcan Nyamuragira, 2,000 meters, June 14-26, 1935 (De Witte) No. 1499; ♂ ♀, Uganda, Ruwenzori: Bwamba Pass (west side), 5,500-7,500 feet, December 1934 - January 1935; Mobuka Valley, 7,300 feet; Namwamba Valley, 6,500 feet (all F. W. Edwards); British Museum (Natural History).

The present fly was distinguished from allied species in the key cited in the Ruwenzori 1956 report. From *Trentepohlia (Trentepohlia) disconnectans* sp. n., it is readily separated by the wing pattern as described under this latter species.

31. **Trentepohlia (Trentepohlia) atrogenualis** sp. n.

General coloration polished yellow, head brownish gray; halteres yellow; legs yellow, femoral tips broadly and conspicuously black, involving about the distal eighth, bases and tips of tibiae less distinctly darkened; femoral bases with a linear row of small black spines, apex of posterior tibiae with a linear row of three long setae; wings pale yellow, with an interrupted brown longitudinal stripe extending virtually the entire length; veins *Rs*, R_{2-3-4} and R_{2-3} subequal; abdomen obscure yellow, tergites with an interrupted brown central stripe.

Female. — Length, about 8 mm.; wing, 7.3 mm. Rostrum brown; palpi darker brown. Antennae light brown; flagellar segments elongate, verticils short. Head brownish gray, occipital region paler; anterior vertex narrow, elevated into a carina.

Thorax polished yellow, scutellum and central part of mediotergite slightly more darkened. Halteres yellow. Legs with coxae and trochanters yellow; femora yellow, tips broadly and conspicuously black, including about the distal eighth or ninth of the segment; tibiae obscure yellow, bases and tips narrowly dark brown; tarsi obscure brownish yellow, darker apically; base of femora with a row of about 8 or 9 small black spines, apex of posterior tibia with a linear row of 3 long setae; what appear to represent the fore legs (detached) have the basal spines present but very small and weak. Wings (Fig. 43) pale yellow, more saturated at base and in costal region; a weak infuscated pattern, appearing chiefly as a longitudinal wash at near mid-width of wing, extending from the axilla across cell *M* and posterior cord into cells R_4 and R_5, interrupted beyond the fork of *M;* veins yellow, more intense in the brightened fields, infuscated in the patterned areas. Venation: *Rs,* R_{2-3-4} and R_{2-3} all subequal; vein R_3 subtransverse; petiole of cell R_5 about one-third the cell; *m-cu* about one-half the basal section of M_{1-2}; apical fusion of veins Cu_1 and *1st A* subequal to vein R_2.

Abdomen obscure yellow, tergites with an interrupted brown central stripe, the areas narrowed at posterior ends of segments, partially interrupting the stripe; sternites yellow, base of ovipositor blackened.

Habitat: Rwanda. Holotype, ♀, Rutshuru, Kivu, 1,285 meters, June 1-6, 1935 (De Witte); No. 1405.

The most similar species appears to be *Trentepohlia (Trentepohlia) alluaudi* Alexander, of Madagascar, which differs evidently in the pattern and venation of the wings and in the coloration of the legs and abdomen.

32. **Trentepohlia (Trentepohlia) disconnectans** sp. n.

General coloration of mesonotum dark brown, sides of praescutum somewhat more brightened, pleura and pleurotergite obscure brownish yellow; halteres yellow, knob dark brown; wings whitish, restrictedly but conspicuously patterned with brown, veins Cu_1 and *1st A* separated at wing margin; abdominal tergites dark brown, extreme posterior borders paler, basal sternites bicolored, yellow, the broad posterior margins brown, outer segments, including hypopygium, dark brown.

Male. — Length, about 7 mm.; wing, 7-7.2 mm. Rostrum brownish yellow; palpi dark brown. Antennae dark brown; flagellar segments long-subcylindrical, exceeding their verticils. Front, anterior vertex and orbits silvery, the remainder of head brownish yellow, darker behind; anterior vertex narrow, carinate, the ridge extending virtually to the occiput.

Pronotum brown; pretergites obscure yellow. Mesonotum dark brown, sides of praescutum somewhat more brightened. Pleura and pleurotergite obscure brownish yellow, propleura and mesepisternum darker. Halteres with stem yellow, knob dark brown. Legs with coxae and trochanters yellow; remainder of legs broken. Wings (Fig. 44) whitish, restrictedly but conspicuously patterned with brown, including a small arcular area, a seam completely crossing the wing at cord, narrowed on posterior cord, a rectangular area at origin of *Rs* extending between veins *R* and *M,* and a narrow seam over vein R_3; wing tip narrowly darkened; veins brown, slightly more darkened in the patterned areas. Venation: Sc_2 nearly opposite fork of *Rs,* Sc_1 subequal to vein R_3, the latter oblique; cell R_5 exceeding three times ita petiole; veins Cu_1 and *1st A* narrowly separated at margin, the distance about one-third vein R_2.

Abdominal tergites dark brown, sparsely pruinose, especially on posterior segments, extreme outer margins paler; basal sternites bicolored, yellow, the broad posterior borders brown, outer segments, including the hypopygium, dark brown.

Habitat: Rwanda. Holotype, ♂, Gitebe, Volcan Nyamuragira, 2,324 meters, June 14-26, 1935 (De Witte); No. 1514. Paratopotype, ♂; De Witte No. 1512.

The slightly open cell *Cu* of the wings likewise is found in *Trentepohlia (Trentepohlia) amantis* Alexander, as discussed earlier. The two flies are quite distinct in the nature of the wing pattern.

33. **Gonomyia (Idiocera) sedata** sp. n.

General coloration of head and thorax gray; antennae brownish black, scape and pedicel yellow, variegated with darker; legs obscure yellow, tips of femora and tibiae narrowly darkened, the latter more narrowly so; wings with a faint brownish tinge, restrictedly patterned with darker brown, *Sc* short, Sc_1 very long, vein R_4 strongly upcurved at tip; male hypopygium with basistyle terminating in a flattened glabrous blade; three dististyles, the inner profoundly bifid, the others simple, terminating in blackened spines; aedeagus pale, apex suddenly narrowed into a long point.

Male. — Length, about 5.5 mm.; wing, 5.6 mm. Rostrum gray; palpi brownish black. Antennae with scape and pedicel yellow, above variegated with brown, flagellum brownish black; flagellar segments long-oval to elongate, shorter than the longest verticils. Head gray, front more whitened.

Pronotum brownish gray, patterned with yellow, including the pretergites. Mesonotal praescutum brownish gray, with two intermediate darker brown stripes, best indicated on their posterior halves, pseudosutural foveae conspicuous, dark reddish brown; scutum dark gray, lobes variegated with brown; scutellum dull orange, infuscated medially at base; postnotum gray, the suture obscure yellow. Pleura dark gray, dorsal sternopleurite conspicuously patterned with yellow; pteropleurite, meral region, and dorsopleural membrane yellow. Halteres yellow, knob weakly darkened. Legs with coxae gray; trochanters obscure yellow; remainder of legs obscure yellow, femoral tips brown, those of tibiae darker but narrower; tarsi broken. Wings (Fig. 42) with a faint brownish tinge, restrictedly patterned with darker brown, including very small areas at origin of *Rs,* cord and *m-cu;* paler but more extensive brown clouds at proximal end of the otherwise pale stigma and at outer end of cell R_4, the latter enclosing a pale marginal spot, the border of cell R_3 similarly brightened; veins brownish yellow, darker in the clouded areas. Venation: *Sc* short, Sc_1 ending shortly beyond origin of *Rs,* Sc_2 far removed from tip, at near middistance between arculus and origin of *Rs,* the latter arcuated; distance on costa between R_{1-2} and R_3 about one-half the length of the latter; vein R_4 strongly upcurved at outer end; cell *2nd* M_2 nearly twice its petiole; *m-cu* slightly more than one and one-half times its length before fork of *M.*

Abdomen, including hypopygium, dark brown, incisures somewhat paler. Male hypopygium (Fig. 47) with basistyle, *b,* terminating in a flattened glabrous blade, apex obtuse. Three dististyles, *d,* or profound branches, the outer a long sinuous rod or spine, narrowed gradually to the long terminal point; intermediate style somewhat shorter and stouter, outer fifth narrowed into a blackened spine, lower margin with scattered long pale setae; inner style longest and most conspicuous, profoundly bifid at near midlength, outer arm a longer slender curved rod, inner arm a flattened dusky blade. Aedeagus straight, entirely pale, apex abruptly narrowed to a terminal point.

Habitat: Rwanda. Holotype, ♂, Rutshuru, Kivu, 1,285 meters, June 7, 1935 (De Witte); No. 1422.

The present fly is similar in venation, wing pattern, and general structure of the hypopygium to *Gonomyia (Idiocera) glabriapicalis* Alexander, of southern Rhodesia, differing in many details of hypopygial structure.

34. **Erioptera (Erioptera) angusticincta** Alexander

Erioptera (Erioptera) angusticincta Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 347 (in key); 1956.

General coloration reddish brown, mesonotum lightly gray pruinose; antennae short, obscure yellow; halteres with stem yellow, knob weakly infuscated; wings yellow with a narrow but distinct brown band at cord, extending from costa to posterior end of vein *Cu;* vein *2nd A* unusually long, strongly sinuous.

Sex? — Wing about 6.2 mm. Rostrum pale brown, palpi slightly darker. Antennae with scape pale yellowish brown, pedicel and flagellum obscure yellow, outer segments broken; flagellar segments oval, shorter than the verticils, with further pale pubescence. Head above buffy yellow. Eyes very large, black, broadly holoptic beneath, indicating the sex as male.

Pronotum yellowish brown, pretergites yellow. Mesonotum medium brown, lightly pruinose, praescutum without clearly defined stripes; posterior sclerites of notum, especiallly the scutellum, more reddish brown. Pleura reddish brown. Halteres with stem yellow, knob weakly infuscated. Legs with coxae reddish yellow, trochanters clearer yellow; remainder broken. Wings yellow, with a narrow but very distinct brown band along cord, widest at costa opposite end of vein Sc_1, narrower behind, terminating at *Cu;* a vaguely indicated paler brown cloud at distal end of Cu_1; veins yellow, dark brown in the darkened seam. Venation: Sc_1 ending opposite or just beyond R_2, Sc_2 shortly beyond origin of *Rs,* Sc_1 being longer than the relatively short *Rs;* R_{2-3-4} and M_{3-4} subequal; *m-cu* at or just before fork of *M;* vein *2nd A* unusually long and sinuous, ending nearly opposite posterior end of *m-cu.*

Abdomen broken.

Habitat: Parc National Albert. Holotype, Sex?, Kamatembe, Riviere Bishakishaki, 2,100 meters, April 11-22, 1934 (De Witte); No. 347.

The present fly apparently belongs to the *peringueyi* group of the genus, being most nearly allied to *cristata* Alexander, of Kenya, as shown in the key to the African species above cited.

35. **Erioptera (Erioptera) euzona** sp. n.

Size large (wing of male about 6 mm.); general coloration of mesonotum brown, sides of praescutum yellowed; knobs of halteres infuscated; femora yellow with a broad dark brown ring that is terminal in position or virtually so; wings yellow, variegated with brown, stigma and wing tip yellow; abdominal tergites bicolored, bases yellow, remainder broadly infuscated; male hypopygium with inner dististyle produced into a crest bearing abundant setae, extended backward into an acute spine. Phallosome, *p*, with each apophysis terminating in three spines, the longest one more slender.

Male. — Length, about 5.8-6 mm.; wing, 5.8-6 mm. Female. — Length, about 7 mm.; wing, 7 mm. Rostrum and palpi black. Antennae with scape and pedicel yellow, flagellum yellowed, outer segments slightly darker. Eyes of male very large, the light yellow vertex narrowed.

Pronotum yellow. Mesonotal praescutum with disk chiefly covered by three brown stripes, the central one narrow, humeral and lateral regions yellow; scutum yellow, each lobe with two contiguous brown areas; scutellum brown, parascutella pale; mediotergite brown, the anterior part yellow. Pleura and pleurotergite chiefly dark, propleura, dorsopleural region, metapleura and meron more yellowed. Halteres with stem yellow, knob infuscated. Legs with coxae and trochanters light yellow; femora yellow, in male the tips broadly and conspicuously dark brown, in female the rings narrower, paler, and slightly subterminal; tibiae yellow, extreme bases narrowly darkened; tarsi yellow basally, outer three segments blackened. Wings with ground yellow, handsomely patterned with brown, stigma yellow; pale brown clouds and bands before wing tip which is narrowly yellow, at arculus and in Anal cells, in cases these clouds paler and more restricted in area; darker brown seams at origin of *Rs* and along cord, reaching the posterior border; veins yellow, darker in the patterned areas. Venation: Vein *2nd A* very strongly sinuous.

Abdominal tergites bicolored, bases narrowly yellow, broadly infuscated posteriorly, this latter color increasing in amount on outer segments; sternites even more clearly bicolored, the amount of dark about equal on all segments; hypopygium obscure yellow. Male hypopygium (Fig. 49) with outer dististyle, *d*, a slender club; inner style with both the beak and crest terminating in

blackened points, the latter an acute spine. Phallosome, *p*, with each apophysis extended into three spines, the longest most slender, the shortest spine arising from the base of the others.

Habitat: Tanzania.

Holotype, ♂, Ugano, Matengo Highlands, WSW of Songea, 1,500-1,700 meters, December 1-10, 1935 (Zerny). Allotopotype, ♀, with type. Paratopotypes, 9 ♂ ♀, November 20-30, December 11-31, 1935 (Zerny).

The most similar species include *Erioptera (Erioptera) carior* Alexander, *E. (E.) cristata* Alexander, and some others, all differing in details of hypopygial structure and especially in coloration of the body, legs and wings.

36. **Erioptera (Erioptera) karisimbii** Alexander

Erioptera (Erioptera) karisimbii Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 347 (in key), 354; 1956.

General coloration of thorax dark brown, lateral praescutal borders vaguely more yellowed; basal antennal segments blackened, proximal flagellar segments obscure yellow; eyes of male very large, broadly holoptic beneath; wings tinged with brown, unpatterned, vein *2nd A* long and sinuous; male hypopygium with outer dististyle an elongate rod, expanded at outer end into a blade, inner style a sinuous rod, terminating in a long spine, beyond midlength slightly dilated and provided with several long delicate setae.

M a l e. — Length, about 3.8-4.2 mm.; wing, 4-4.8 mm, Type badly broken, hypopygium mounted on slide. Rostrum and palpi black. Antennae short, scape and pedicel blackened, proximal flagellar segments obscure yellow, short and crowded, outer segments elongate, with conspicuous verticils. Head above light gray; eyes of male very large, narrowly separated on vertex, broadly holoptic beneath.

Pronotum obscure yellow, pretergites clear yellow. Mesonotum dark brown, lateral praescutal borders more yellowed, narrowly margined with gray; mediotergite gray pruinose. Pleura brown, darker beneath the light yellow dorsopleural region, behind more pruinose. Halteres with stem yellow, knob darker. Legs with coxae and trochanters obscure yellow to brownish yellow; remainder of legs brown, outer tarsal segments darker. Wings (Fig. 48) tinged with brown, outer part of radial field still darker; veins brown. Venation: R_2 oblique; basal section of vein M_{1-2} so short as to be virtually lacking, nearly in longitudinal alignment with *M, m-cu* at fork of *M;* vein *2nd A* long and sinuous.

Abdomen, including hypopygium, dark brown, in cases the tergites with obscure yellow spots. Male hypopygium (Fig. 50) with mesal face of basistyle, *b,* with a stout lobe that narrows gradually to the nearly pointed tip that bears two or three strong setae. Outer dististyle, *d,* a long rod that is expanded on about the outer third into a blade, its surface with microscopic setulae, the outermost smaller; inner style shorter, a sinuous rod that narrows to a long terminal spine, slightly dilated beyond mid-length, with long delicate setae. Phallosome, *p,* with gonapophyses appearing as simple blackened spines; aedeagus with outer arms directed laterad.

Habitat: Parc National Albert. Holotype, broken ♂, Kansenze, Volcan Karisimbi, 2,400 meters, March 4, 1935 (De Witte) No. 1202. Paratypes, ♂, Kampala, Uganda, December 12, 1934 (Edwards) No. 228; 3 ♂♂, Kilembe, Ruwenzori Range, Uganda, 4,500 feet, December 1934 - January 1935 (Edwards) No. 227.

The fly is told from other related species by the unpatterned wings and structure of the male hypopygium. In the latter respect the resemblance to the Holarctic species *Erioptera (Erioptera) limbata* Loew and *E. (E.) uliginosa* Alexander may be noted.

37. **Erioptera (Psiloconopa) rutshuruensis** Alexander

Erioptera (Psiloconopa) rutshuruensis Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 347 (in key), 349, fig. 171; 1956.

Allied to *maculata;* mesonotum grayish yellow, patterned with brown; knob of halteres dark brown; femora obscure yellow with an obscure brown subterminal ring; wings whitish subhyaline, whith an abundant broken brown pattern involving all cells, the areas chiefly of very large ocelli; cell *1st* M_2 elongate, basal section of M_3 angulated.

Male. — Length, about 4-4.5 mm.; wing, 4.5-5.5 mm. Female. — Length, about 4-5 mm.; wing, 4-5 mm. Rostrum dark brown, sparsely pruinose; palpi brownish black. Antennae with scape and pedicel dark brown, flagellum brownish yellow; flagellar segments oval to long-oval, shorter than the longest verticils. Head brown, pruinose.

Pronotum yellow, patterned with brown, pretergites clearer yellow. Mesonotal praescutum grayish yellow, with a brown pattern that includes a pair of intermediate stripes and short more lateral ones; tuberculate pits dark brown, on internal borders of the intermediate stripes; pseudosutural foveae reddish brown; scutum gray, each lobe with two separated brown areas, the posterior one smaller; scutellum gray with a brown central line,

near posterior border with a pair of strong setae; mediotergite brown, gray on central part. Pleura and pleurotergite gray pruinose, with a brown dorsal stripe, best indicated on the anepisternum, dorsopleural membrane paler. Halteres with stem whitened, knob dark brown. Legs with coxae and trochanters pale; femora obscure yellow with a very pale and nearly indistinct brown subterminal ring, this exceeding twice the pale tip; tibiae and tarsi whitened, outer tarsal segments more infuscated. Wings whitish subhyaline, with an abundant broken brown pattern that involves all cells, in amount subequal to the ground; dark areas essentially consisting of very large ocelli, centering at and near origin of *Rs,* anterior and posterior cords, outer end of cell *1st* M_2 and tip of vein *2nd A;* costal border with six darkenings, the proximal three very small and inconspicuous, the outer ones large, solidly darkened, behind confluent with the ocelli; outermost area a very large ring extending from vein R_3 to M_3, the extreme tip of vein R_5 pale; veins brown, the costal interspaces pale. Venation: Cell *1st* M_2 elongate, widened outwardly, basal section of M_3 angulated, longer than *m; m-cu* about one-third its length before fork of *M,* vein *2nd A* virtually straight.

Abdomen dark brown, basal sternites more reddened. Ovipositor with genital shield darkened, valves slender, hypovalvae pale, compressed basally. Male hypopygium described in the Ruwenzori Report, as cited (Fig. 171).

Habitat: Rwanda, Kenya. Holotype, ♀, Rutshuru, Kivu, Parc National Albert, September 15-26, 1933 (De Witte); No. 9. Allotype, ♂, Mt. Kinangop, Aberdare Range, Kenya, 8,000 feet, October 1934 (Edwards); No. 229. Paratypes, ♂, Kapretwa, Mount Elgon, Kenya, 6,500 feet, February 1935 (Edwards); ♂ ♀, Subukia, Nakuru District, Rift Valley Province, Kenya, 6,400 feet, June 1948 (Harry Hoogstraal).

While evidently related to the western Palaearctic *Erioptera (Psiloconopa) maculata* Meigen the present fly is quite distinct, especially in the wing pattern.

38. **Ormosia (Trichotrimicra) vanstraeleni** Alexander

Ormosia (Trichotrimicra) vanstraeleni Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 343 (in key), 346, fig. 162; 1956.

General coloration of body dark brown, restrictedly patterned with yellow; antennae with pedicel enlarged, oval, exceeding the scape in size; wings tinged with brown, macrotrichia in wing cells beyond about

the basal third; Sc_1 ending about opposite three-fourths *Rs*, Sc_1 unusually short, less than R_{2-3-4}, cell *1st* M_2 closed, Anal veins straight, divergent; male hypopygium with outer dististyle slender, inner margin at near midlength with a conspicuous appressed spine.

Male. — Length, about 3.8-4 mm.; wing, 4.5-4.6 mm. Rostrum testaceous yellow; palpi brownish black. Antennae with scape and pedicel black, flagellum brown; pedicel oval, enlarged, in size exceeding the scape; basal flagellar segments oval, passing through short-cylindrical, outer segments more elongate, verticils conspicuous. Head dark brown.

Pronotum obscure brownish yellow, restrictedly patterned with brown, pretergites clear light yellow. Mesonotum almost uniformly dark brown, lateral praescutal borders narrowly yellow; posterior margin of scutellum restrictedly obscure yellow, postnotum brown and obscure yellow. Pleura uniformly dark brown, dorsopleural membrane yellow. Halteres with stem dirty white, in cases knob weakly darkened. Legs with fore coxae weakly infuscated, remaining coxae and all trochanters yellow; remainder of legs pale brown; claws simple, long and straight. Wings strongly tinged with brown, prearcular and basal parts of costal field more yellowed; veins pale brown, more yellowed in the brightened parts. Macrotrichia of cells relatively sparse but well distributed in cells beyond cord, basad of this becoming more sparse, lacking in cells of basal third of wing. Venation: Sc_1 ending about opposite three-fourths *Rs*, Sc_2 shortly removed, Sc_1 shorter than R_{2-3-4}, the latter about twice the basal section of R_5; R_{2-3} about one-half R_2; veins R_3 and R_4 diverging gradually, cell R_3 at margin slightly less than cell R_2; cell *1st* M_2 closed, subequal in length to vein M_4; *m* shorter than basal section of M_3, *m-cu* about one-fifths its length beyond fork of *M*, vein *2nd A* straight, diverging gradually from *1st A*.

Abdomen, including hypopygium, dark brown. Male hypopygium (Fig. 51) with outer dististyle, *d*, a relatively slender darkened blade, more expanded shortly before midlength with an appressed black spine on inner margin; outer half of style gently curved, tip obtuse, outer surface with abundant appressed spinulae, inner style a pale blade, bent at nearly a right angle at midlength, tip acute, outer margin of blade near point of angulation with a few microscopic pale setulae. Phallosome, *p*, complex, including two slender blackened spines, with additional paler blades and rods, about as figured. Ovipositor with cerci high and compressed, hypovalvae longer and more slender.

Habitat: Burundi, Uganda. Holotype, ♂, Ilega, near foot of Volcan Karisimbi, Parc National Albert, 2,400 meters, March 12, 1935 (De Witte). Allotype, ♀, Mount Mgahinga, Kigezi Province, Uganda, 10,000 feet, November 1934 (Edwards) No. 232. Paratypes, 2 ♂♂, with allotype; 1 ♂, Bwamba Pass, west side of Ruwenzori Range, Uganda, 5,500-7,500 feet, December 1934 - January 1935 (Edwards).

The species was named for Dr. V. Van Straelen, late President of the Parcs Ntionaux du Congo Belge. The species differs conspicuously from *Ormosia (Trichotrimicra) hirtipennis* (Alexander) but appears to be assigned correctly to this subgenus.

39. **Molophilus (Molophilus) insanus** sp. n.

Belongs to the *gracilis* group and subgroup; general coloration of thorax light reddish brown, praescutal borders broadly yellow; antennae short, scape and pedicel brownish testaceous, flagellum darker brown; male hypopygium with basistyle terminating in three lobes, the mesal one truncated at apex, produced into a triangular point; outer dististyle very small, basal style long and conspicuous, dilated at near midlength, thence narrowed to an acute point, surface with scattered microscopic spicules.

Male. — Length, about 3.5 mm.; wing, 4.2 mm.; antenna, about 0.75 mm. Rostrum brown; palpi black. Antennae of male short; scape and pedicel brownish testaceous, flagellum darker brown; flagellar segments long-oval, the outer ones shorter, verticils long and conspicuous, on the intermediates approximately one-half longer than the segment. Head gray.

Pronotum and pretergites yellow. Mesonotal praescutum light reddish brown, sparsely pruinose, lateral borders broadly yellow, enclosing the reddened pseudosutural foveae; scutal lobes reddish brown, median area darker; scutellum and postnotum yellow. Pleura and pleurotergite brownish yellow, dorsal anepisternum more darkened, ventral sternopleurite less so. Halteres yellow. Legs with coxae and trochanters yellow; remainder of legs brownish, yellow, outer tarsal segments brown. Wings subhyaline, veins and trichia darker. Venation: R_2 a short distance beyond level of *r-m;* vein *2nd A* relatively long, ending shortly beyond *m-cu.*

Abdomen dark brown, hypopygium obscure brownish yellow. Male hypopygium (Fig. 52) with basistyle terminating in three lobes, the ventral and dorsal ones obtuse, the latter smaller, mesal lobe, *mb,* larger, more flattened, apex obliquely truncated, terminating in a triangular point. Dististyles, *d,* very unequal, the outer very reduced in size, in the notch of the basistyle, roughly

pentagonal in shape; basal style long and conspicuous, projecting caudad beyond the level of the lobes of the basistyle, appearing as a simple rod, at and beyond midlength weakly dilated, outwardly narrowed to an acute point, surface with scattered microscopic spicules. Phallosomic plate, *p,* relatively narrow, tip obtuse.

Habitat: Parc National Albert. Holotype, ♂, Nyakibumba, near Kikere, 2,226 meters, July 9, 1934 (De Witte) No. 478.

In general appearance most similar to species such as the European *Molophilus (Molophilus) occultus* de Meijere, differing especially in hypopygial structure. The African *M. (M.) africanus* Riedel was described from a unique female specimen and presumably will remain unrecognizable.

40. **Molophilus (Molophilus) orcus** sp. n.

Belongs to the *gracilis* group and subgroup; general coloration of thorax dark brownish gray; antennae short; halteres light yellow; male hypopygium with both dististyles conspicuously scabrous.

Male. — Length, about 3.8-4 mm.; wing, 4.5-5 mm.; antenna, about 0.8-0.9 mm. Rostrum dark brown; palpi black. Antennae short; scape and pedicel light brown, flagellum slightly darker; flagellar segments oval, shorter than their verticils. Head gray.

Cervical region and pronotum dark brownish gray, pretergites light yellow. Mesonotum dark gray, central region of praescutum and scutal lobes slightly more infuscated, humeral region and lateral praescutal border vaguely brightened, pseudosutural foveae blackened, conspicuous; notum with erect black setae except on mediotergite. Pleura dark brownish gray, dorsopleural membrane brown. Halteres light yellow. Legs with coxae and trochanters testaceous yellow; fore legs brown, middle legs, especially the femora, somewhat darker brown, posterior legs brownish yellow, outer tarsal segments darker brown. Wings brownish yellow, prearcular and costal fields clearer yellow; veins brownish yellow, trichia darker. Venation: R_2 in approximate transverse alignment with *r-m;* petiole of cell M_3 from about one-half to three-fourths longer than *m-cu;* vein *2nd A* sinuous.

Abdomen, including hypopygium, dark brown. Male hypopygium (Fig. 53) with dorsal lobe of basistyle, *b,* slender, ventral much broader; mesal lobe moderately long, all lobes with sparse conspicuous setae, the mesal with further abundant smaller setae and setulae. Both dististyles, *d,* blackened, conspicuously scabrous, outer style terminating in a stout spine, teeth of outer face

relatively few but unusually powerful, especially the outermost, basal flange of style developed; inner style strongly curved at near the outer two-thirds, terminating a slightly more enlarged head, its apex acute, outer surface strongly scabrous, the most basal point larger and erect. Phallosomic plate, *p,* appearing asymmetrical, outer margin more sclerotized, surface setuliferous; aedeagus shorter than in some related species.

Habitat: Madagascar. Holotype, ♂, Anjavidilava, Andringitra Massif, 2,020 meters, January 17-21, 1958 (Stuckenberg).

The most similar regional species include *Molophilus (Molophilus) furciferus* Alexander and *M. (M.) thyellus* Alexander, most readily distinguished among themselves by hypopygial structure, particularly the dististyles.

41. **Molophilus (Molophilus) plebejus** Alexander

Molophilus (Molophilus) plebejus Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 355 (in key); 1956.

Belongs to the *gracilis* group and subgroup; general coloration light brownish ochreous; antennae short; halteres uniformly yellow; legs obscure yellow, outer tarsal segments somewhat darker; male hypopygium with basistyle terminating in three lobes, the mesal almost as long as the ventral lobe; basal dististyle elongate-triangular in shape, extended apically into a point; outer style a sinuous yellow rod, tip narrowly obtuse.

Male. — Length, about 4.5 mm.; wing, 5.2 mm.; antenna, about 1.2 mm. Rostrum and palpi dark brown. Antennae of male short; scape and pedicel pale yellow, flagellum brown; flagellar segments long-suboval, verticils, especially the proximal ones, very long. Head brownish gray.

Pronotum dull ochreous. Mesonotum chiefly light brownish ochreous, sparsely pruinose, pseudosutural foveae large but virtually of the ground color, inconspicuous. Pleura medium brown, sparsely pruinose. Halteres uniformly yellow. Legs with coxae and trochanters yellow, remainder of legs obscure yellow, outer tarsal segments somewhat darker. Wings weakly suffused with brown, veins and trichia darker brown. Venation: R_2 and *r-m* in approximate transverse alignment; petiole of cell M_3 about twice *m-cu;* vein *2nd A* sinuous, ending opposite *m-cu.*

Abdomen, including hypopygium, dark brown. Male hypopygium (Fig. 54) with basistyle terminating in three lobes, the ventral one longest, narrowed to the obtuse tip; dorsal lobe much shorter but stouter and more obtuse; mesal lobe almost as long as the ventral, very flattened outwardly, apex darkened, obtuse. Two very unequal dististyles, *d,* the longest sinuous yellow rod,

slightly stouter at near two-thirds the length, thence more narrowed to the obtuse tip; basal style an elongate-triangular structure, surface corrugated, apex extended into a point. Phallosomic plate, *p,* microscopically setuliferous; aedeagus flattened, slightly narrower than the basal dististyle.

Habitat: Parc National Albert. Holotype, ♂, Lac Magera, 2,000 meters, March 1, 1934 (De Witte) No. 267.

In general appearance and coloration, the present fly most resembles species such as *Molophilus (Molophilus) insanus* sp. n., differing evidently in hypopygial structure, particularly the basistyle and dististyles.

42. **Molophilus (Molophilus) vigilans** Alexander

Molophilus (Molophilus) vigilans Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 355 (in key), 364; 1956.

Belongs to the *gracilis* group and subgroup; general coloration brown; wings weakly tinged with brown, veins slightly darker, vein R_2 shortly beyond level of *r-m;* male hypopygium with dorsal lobe of basistyle long and slender, setiferous, mesal face of style with two setiferous lobes.

Male. — Length, about 4-4.7 mm.; wing, 4.5-5.5 mm. Mouthparts dark brown. Antennae with scape and pedicel brown, flagellum paler; flagellar segments oval, verticils conspicuous. Head brownish gray, restrictedly yellow at antennal bases.

Pronotum yellowish brown, sides darker, scutellum and pretergites yellowed. Mesonotum and pleura almost uniformly brown, very sparsely pruinose, humeral region of praescutum yellowed, pseudosutural foveae slightly darker than the ground. Halteres pale yellow. Legs with all coxae and trochanters yellow; remainder of legs brown, femoral bases paler. Wings weakly tinged with brown, veins yellowish brown, only slightly darker than the ground. Venation: R_2 beyond level of *r-m;* petiole of cell M_3 relatively long, approximately three times *m-cu;* vein *2nd A* sinuous, relatively long, ending opposite *m-cu.*

Abdomen, including hypopygium, dark brown. Male hypopygium (Ruwenzori Report, p. 361, fig. 182) with dorsal lobe of basistyle very slender, elongate, with numerous long setae; mesal face of style with two setiferous lobes, the more basal one slender. Two dististyles, *d,* the outer a long slender rod with dilated base, outer margin of intermediate portion with microscopic spinulae, outer ones more crowded; inner style shorter and much stouter, very gently curved, at apex with about six strong spinous points. Aedeagus long and slender.

Habitat: Rwanda, Uganda. Holotype, a badly broken ♂, Nyabitsindi, entre Volcan Bishoke Musule, Rwanda, 2,400 meters, February 18, 1935 (De Witte) No. 1162. Paratype, ♂, Mount Mlanje, Uganda, 10,000-11,000 feet, November 1934 (Edwards) No. 236.

As indicated above, the key to the Tropical African species of *Molophilus* includes the present species and its nearest relative, *Molophilus (Molophilus) dilatibasis* Alexander, from the Aberdare Range, Kenya, the two flies being best separated by hypopygial characters.

43. **Styringomyia spinistylata** Alexander

Styringomyia spinistylata Alexander; Ruwenzori Expedition 1934-35, 1, no. 7: 371 (in key); 1956.

Belongs to the *leucopeza* group, allied to *ingrami,* differing in the pale antennal flagellum and in hypopygial details.

Male. — Length, about 7 mm.; wing, 4.5 mm. Antennae with scape dark brown, pedicel black, basal half of flagellum whitened, outer segments slightly infumed; flagellar segments unusually long, with conspicuous verticils.

Thorax almost entirely dark brown, praescutum with more grayish stripes. Halteres blackened, apices of knobs very vaguely brightened. Legs almost as in *ingrami.* Wings with darkened pattern along cord not attaining the costa.

Male hypopygium (Fig. 55) with terminal lobe of tergite, *t,* relatively narrow, abruptly paler than remainder of segment. Ninth sternite, *s,* with apex deeply notched, almost as in *leucopeza.* Apical spine of basistyle, *b,* slender. Dististyle, *d,* with outer arm bearing a series of from 8 to 12 peglike blackened spines on proximal two-thirds or less; inner arms of style three, the intermediate one with an unusual number of peglike spinoid setae, innermost arm with a dense brush of blackened setae.

Habitat: Cameroon, Democratic Republic of Congo. Holotype, ♂, Kimati, Mayumbe, Democratic Republic of Congo, June 7, 1911 (R. Mayne). Paratypes, 2 ♂♂, Rutshuru, Kivu, Democratic Republic of Congo, June 1-6, 1935 (De Witte) Nos. 1401, 1403; 1 ♂, Eala, Cameroon, February 16, 1922 (J. A. Reis), Alexander Collection.

The peglike spines on the outer arm of the dististyle of the hypopygium are found not only in *Styringomyia ingrami* Edwards but also in the otherwise quite different *S. serristylata* Alexander, and some other species. The condition of the three inner arms of the dististyle in the present species is quite distinct from that found in *S. leucopeza* and allies. Unfortunately the exact nature of the spines and setae on these

structures has not been described for *S. ingrami* and no material of this is available to me. The present fly appears to be quite distinct in the pale antennal flagellum and in the conspicuously emarginate sternite of the hypopygium.

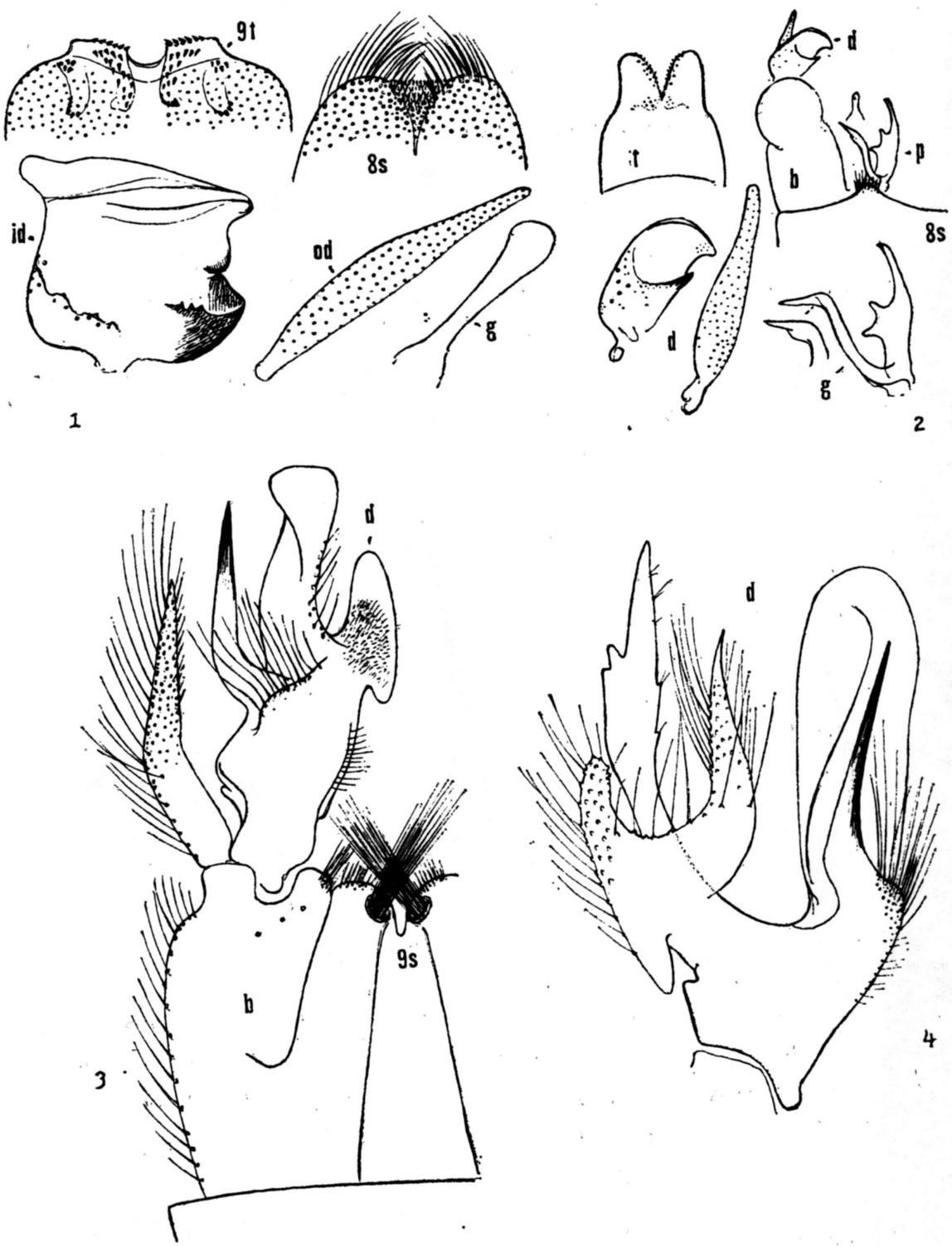
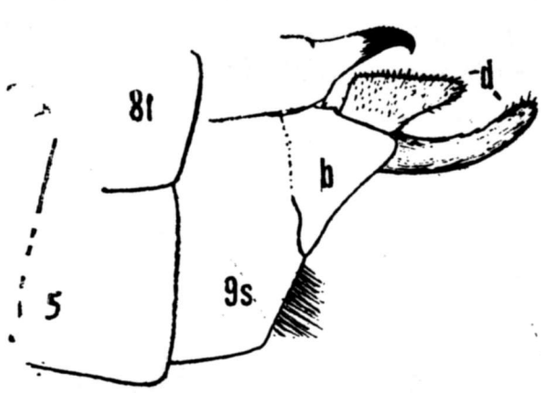
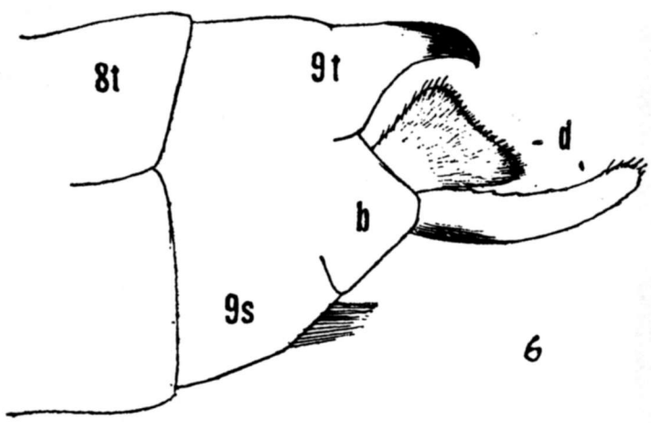
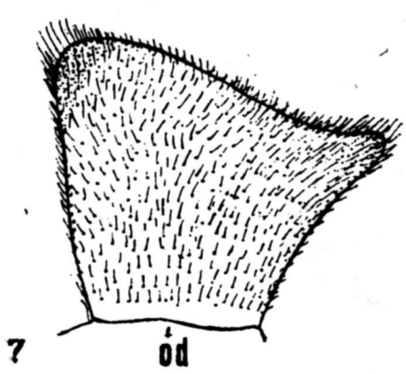
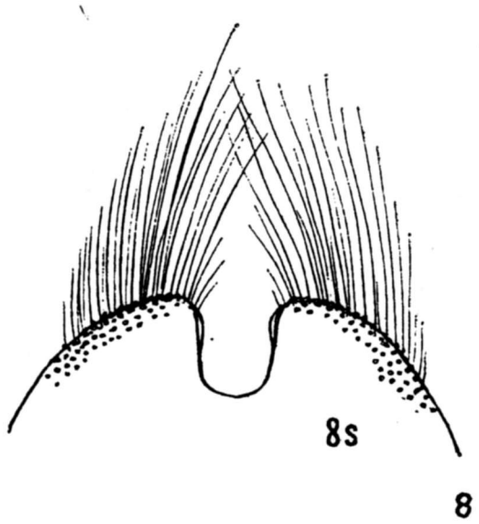


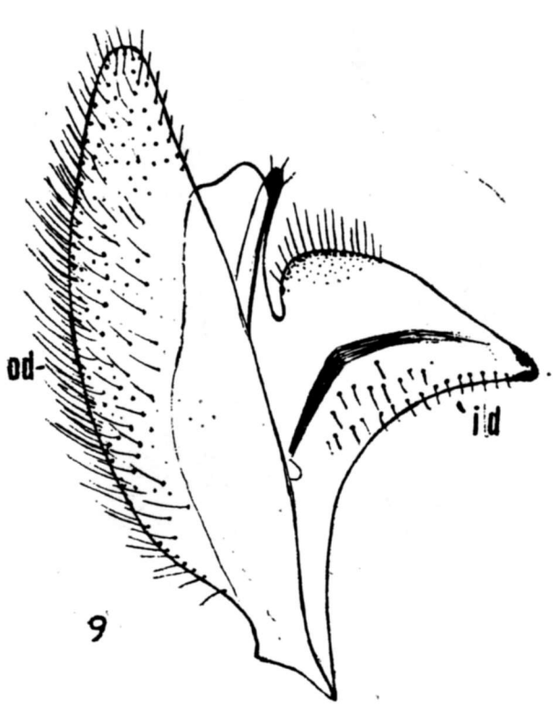
Fig. 1. *Nephrotoma subinanis* Alexander, male hypopygium. — Fig. 2. *Nephrotoma dewittei* Alexander, male hypopygium. — Figs. 3-4. *Tipula (Acutipula) ellioti* Alexander, male hypopygium. — Symbols: *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *p*, phallosome; *s*, sternite; *t*, tergite.

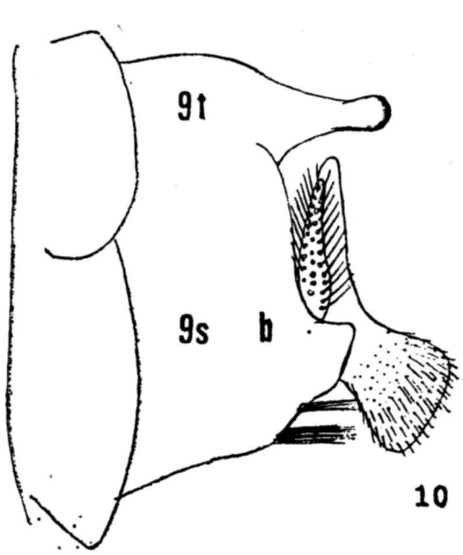




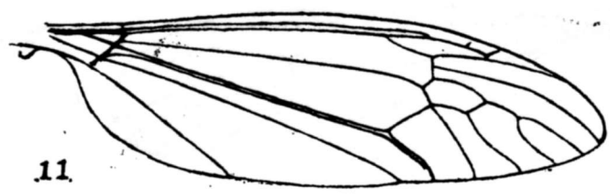


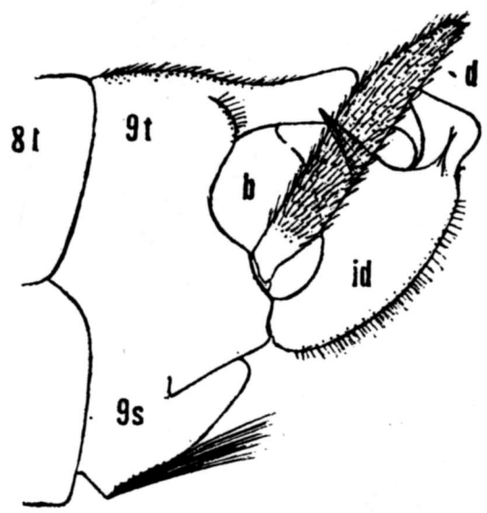






Figs. 5-8. *Tipula (Acutipula) gaboonensis* Alexander; male hypopygium. — Fig. 9. *Tipula (Acutipula) kenia* Alexander; male hypopygium. — Fig. 10. *Tipula (Acutipula) meliuscula* Alexander; male hypopygium. — (Symbols: *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *p*, phallosome; *s*, sternite; *t*, tergite).





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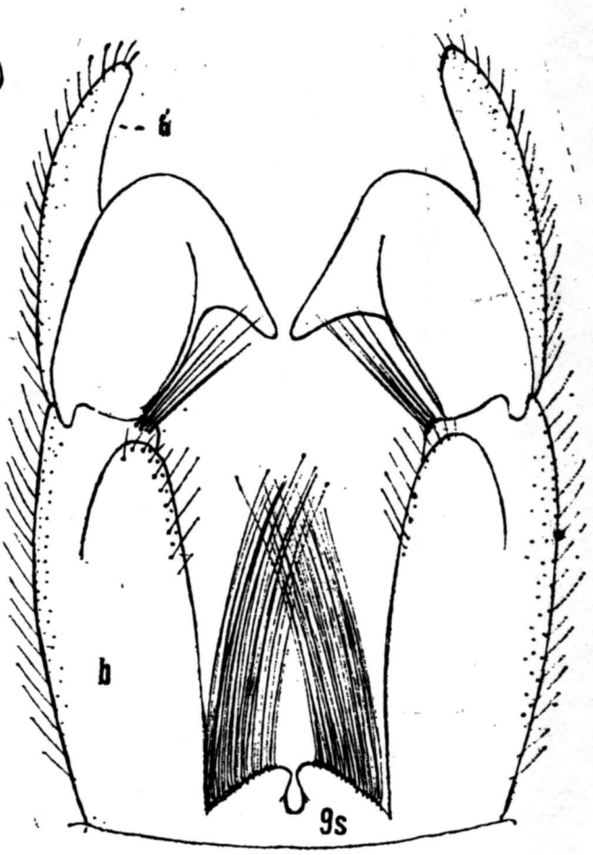

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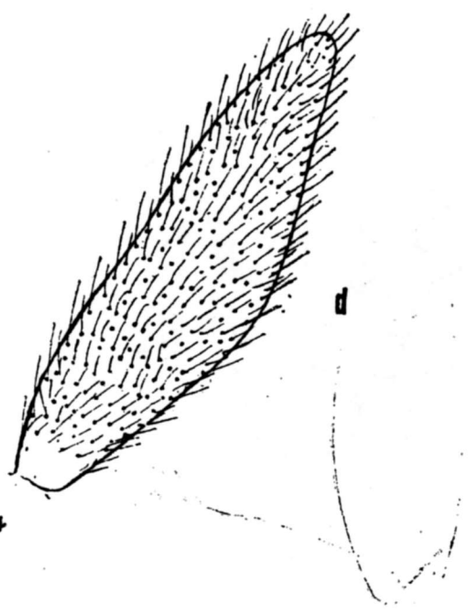

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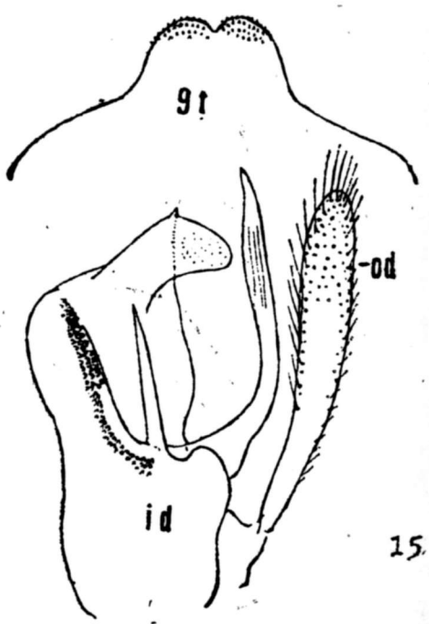

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Fig. 11. *Tipula (Acutipula) vanstraeleni* Alexander; venation. — Figs. 12-14. *Tipula (Acutipula) milanjensis* Alexander; male hypopygium. — Fig. 15. *Tipula (Acutipula) vanstraeleni* Alexander; male hypopygium. — (Symbols: *b*, basistyle; *d*, dististyle; *s*, sternite; *t*, tergite).

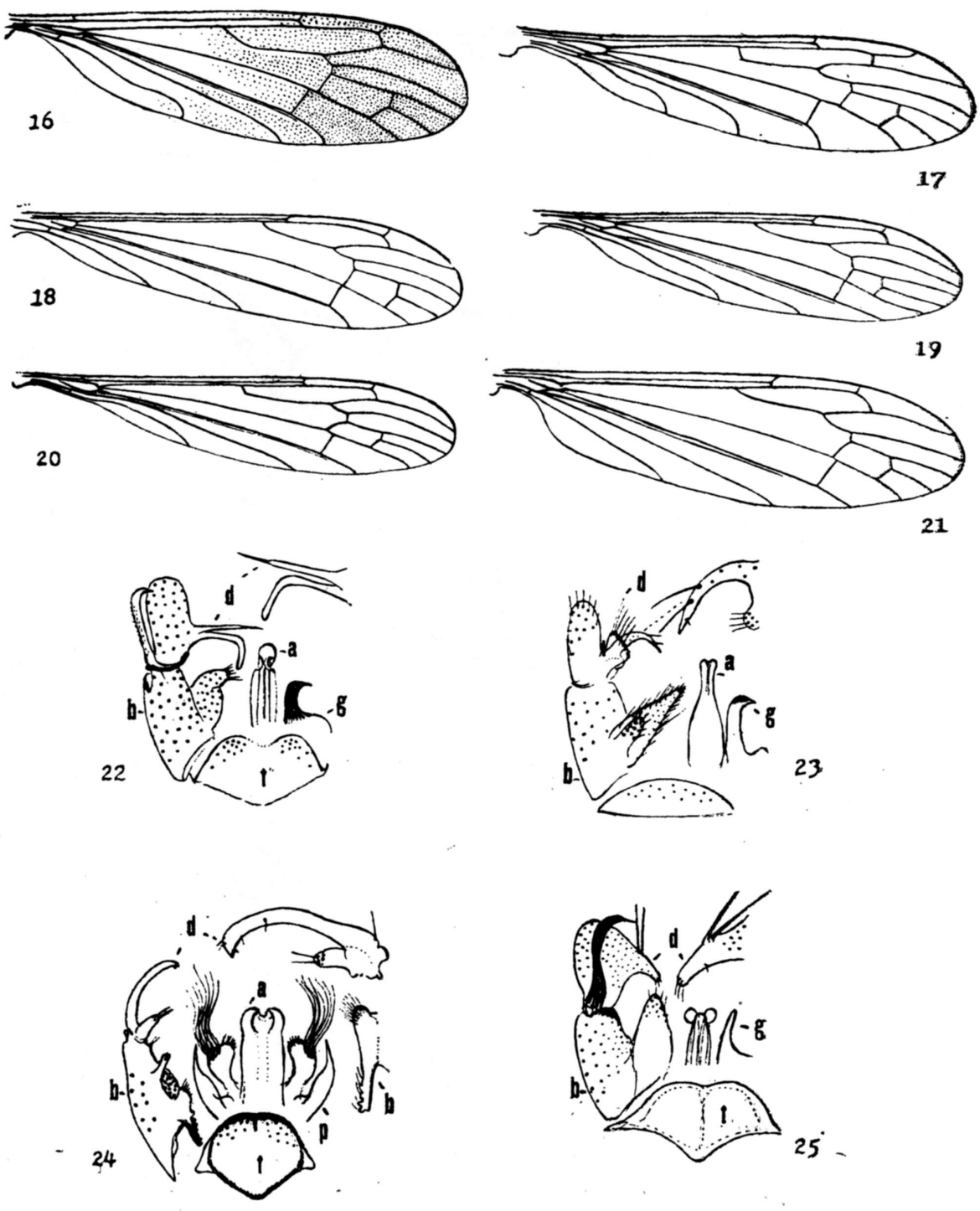


Fig. 16. *Limonia (Achyrolimonia) persuffusa* Alexander; venation. — Fig. 17. *Limonia (Achyrolimonia) pothos* sp. n.; venation. — Fig. 18. *Limonia (Atypophthalmus) patrita* sp. n.; venation. — Fig. 19. *Limonia (Atypophthalmus) polypogon* sp. n.; venation. — Fig. 20. *Limonia harmonia* Alexander; venation. — Fig. 21. *Limonia (Dicranomyia) guillarmodana* sp. n.; venation. — Fig. 22. *Limonia (Achyrolimonia) pothos* sp. n.; male hypopygium. — Fig. 23. *Limonia (Atypophthalmus) patrita* sp. n.; male hypopygium. — Fig. 24. *Limonia (Atypophthalmus) polypogon* sp. n.; male hypopygium. — Fig. 25. *Limonia (Dicranomyia) guillarmodana* sp. n.; male hypopygium. — (Symbols: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *p*, phallosome; *t*, tergite).

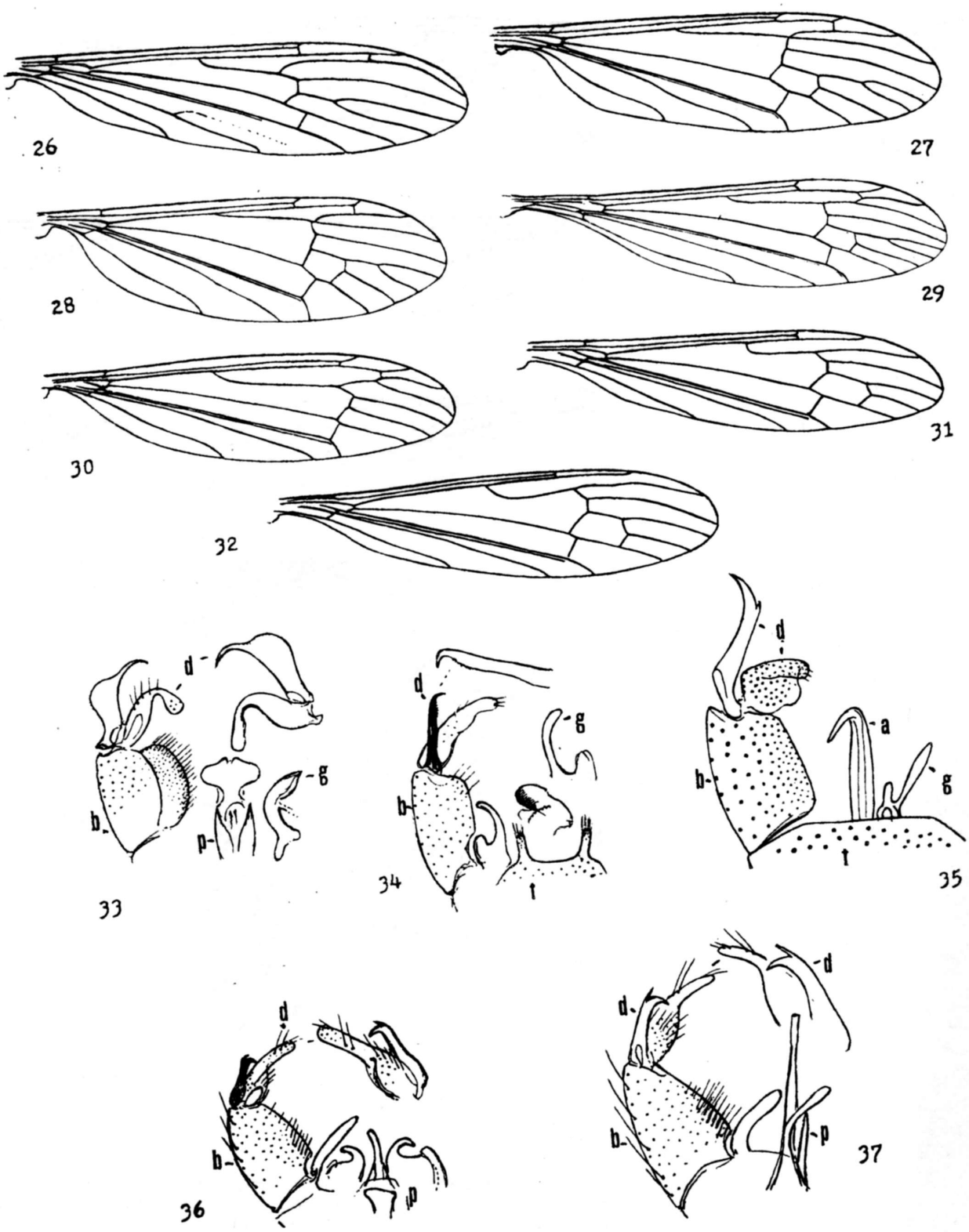


Fig. 26. *Dicranoptycha stuckenbergi* sp. n.; venation. — Fig. 27. *Limnophila (Afrolimnophila) antimena* sp. n.; venation. — Fig. 28. *Limnophila (Afrolimnophila) ghesquierei* sp. n.; venation. — Fig. 29. *Pilaria chionomera* Alexander; venation. — Fig. 30. *Hexatoma (Parahexatoma) beieri* sp. n.; venation. — Fig. 31. *Elephantomyia (Elephantomyia) argentipleura* sp. n.; venation. — Fig. 32. *Elephantomyia (Elephantomyia) laticincta* sp. n.; venation. — Fig. 33. *Dicranoptycha matengoensis* sp. n.; male hypopygium. — Fig. 34. *Dicranoptycha stuckenbergi* sp. n.; male hypopygium. — Fig. 35. *Limnophila (Afrolimnophila) antimena* sp. n.; male hypopygium. — Fig. 36. *Elephantomyia (Elephantomyia) argentipleura* sp. n.; male hypopygium. — Fig. 37. *Elephantomyia (Elephantomyia) laticincta* sp. n.; male hypopygium. — (Symbols: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *p*, phallosome; *t*, tergite).

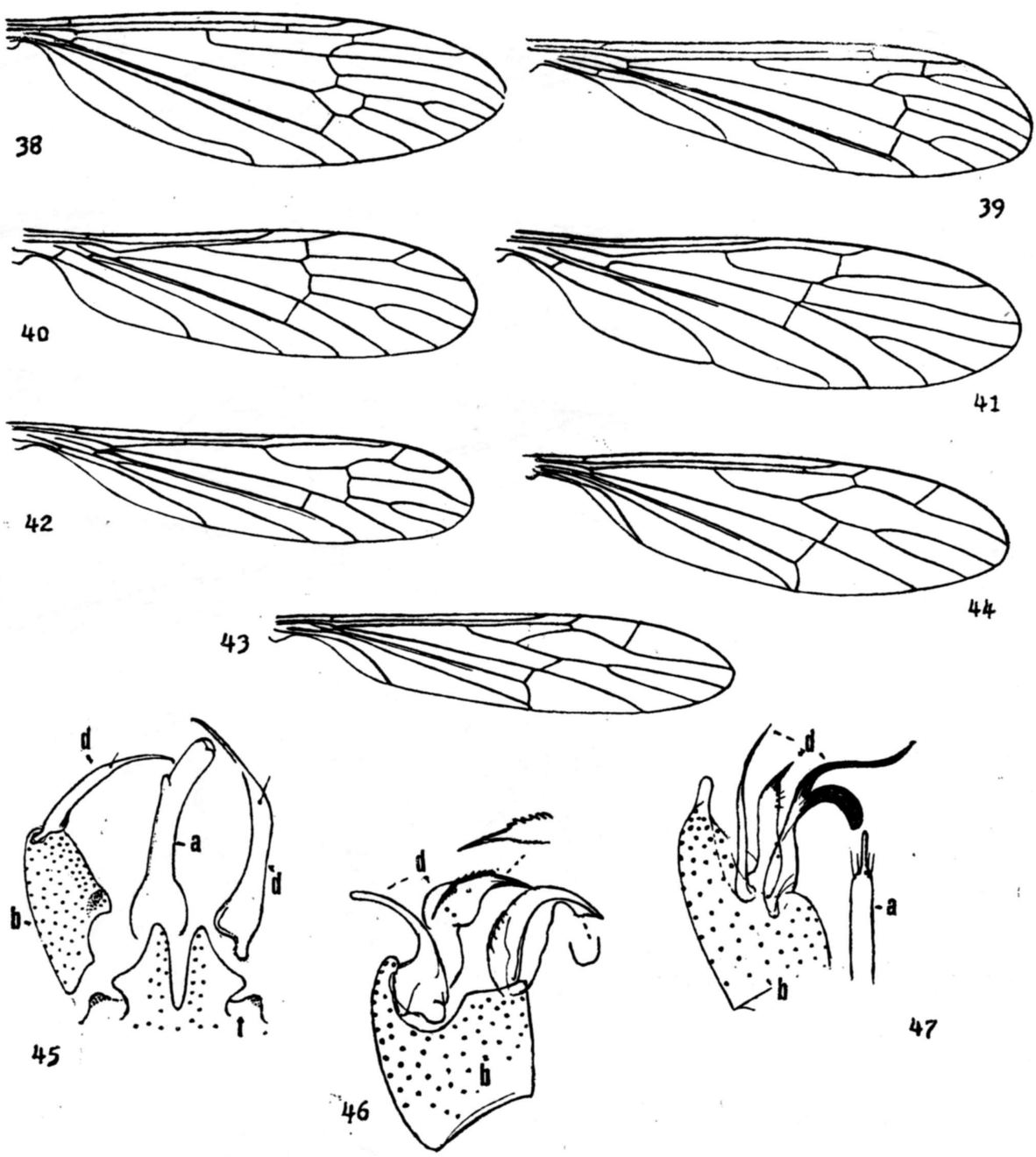
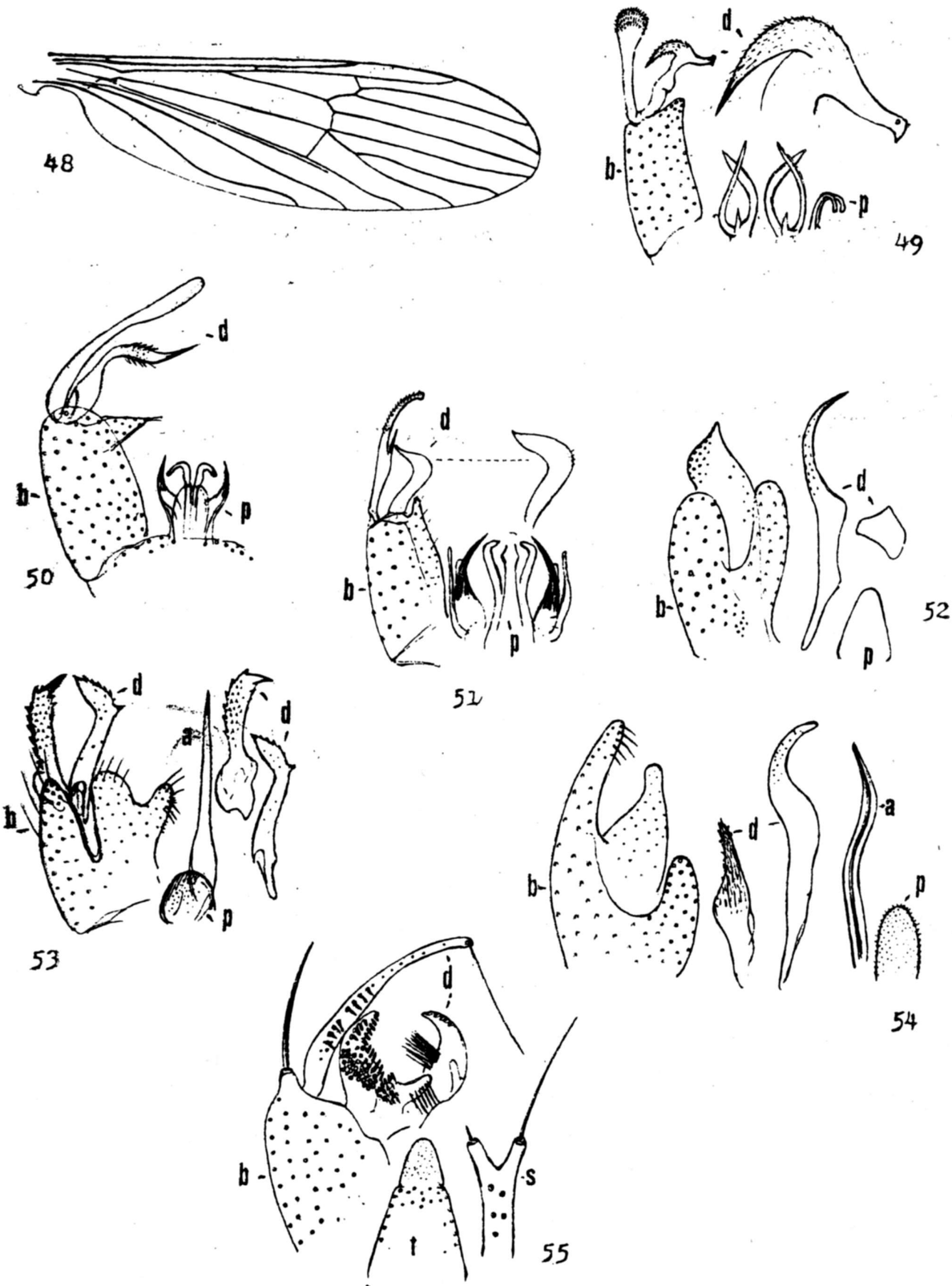


Fig. 38. *Clydonodozus phaeosomus* sp. n.; venation. — Fig. 39. *Limnophilomyia matengoensis* sp. n.; venation. — Fig. 40. *Teucholabis (Euparatropesa) witteana* Alexander; venation. — Fig. 41. *Gymnastes (Gymnastes) subnuda* Alexander; venation. — Fig. 42. *Gonomyia (Idiocera) sedata* sp. n.; venation. — Fig. 43. *Trentepohlia (Trentepohlia) atrogenualis* sp. n.; venation. — Fig. 44. *Trentepohlia (Trentepohlia) disconnectans* sp. n.; venation. — Fig. 45. *Limnophilomyia matengoensis* sp. n.; male hypopygium. — Fig. 46. *Teucholabis (Euparatropea) witteana* Alexander; male hypopygium. — Fig. 47. *Gonomyia (Idiocera) sedata* sp. n.; male hypopygium. — (Symbols: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *t*, tergite).



Fgi. 48. *Erioptera (Erioptera) karisimbii* Alexander; venation. — Fig. 49. *Erioptera (Erioptera) euzona* sp. n.; male hypopygium. — Fig. 50. *Erioptera (Erioptera) karisimbii* Alexander; male hypopygium. — Fig. 51. *Ormosia (Trichotrimicra) vanstraeleni* Alexander; male hypopygium. — Fig. 52. *Molophilus (Molophilus) insanus* sp. n.; male hypopygium. — Fig. 53. *Molophilus (Molophilus) orcus* sp. n.; male hypopygium. — Fig. 54. *Molophilus (Molophilus) plebejus* Alexander; male hypopygium. — Fig. 55. *Styringomyia spinistylata* Alexander; male hypopygium. — (Symbols: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *p*, phallosome; *s*, sternite; *t*, tergite).